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ORIGINAL ARTICLES.

PRELIMINARY REPORT OF SOME STUDIES IN SKIOGRAPHY.

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Although the experiments described in this paper have been directly suggested by the marvellous results of Prof. Rœntgen, the writer entertains some doubt as to the essential unity of the methods, and, thus, has chosen a more general and non-committal title, rather than the ones usually employed. It is obvious that any opinions or methods set forth at present, must be extremely crude, and any writer must reserve the privilege of modifying them to any extent which subsequent study may teach. Yet it is better that imperfect and erroneous methods should be detailed than that each worker in this field should have to find by personal labor what the experience and failures of others might have taught him. In a certain sense, there is no such thing as the failure of an experiment in any new line of applied science. A negative result may not be as satisfactory as a positive one, yet it marks limitations, whereas apparent success may give rise to false hopes and unwarranted inferences.

It is not necessary to review Prof. Rœntgen's experiments, but the writer may be pardoned for briefly stating some practical results already reached, in the technique of cathode photography. A double induction coil, the secondary current of one being applied as the primary of the second, is not necessary. In fact, a too powerful coil will break tubes. An ordinary incandescent lamp with broken filament is a good practical substitute for the more expensive Crookes' tube, although different bulbs differ in their adaptability probably on account of a variation in the vacuum. Messrs. Plum and Smith of this city have found that a perfect incandescent light bulb can be used, by attaching one wire to one of the poles connected with the carbon loop and the other to a piece of tin-foil pasted on the bulb.

The writer's experiments here reported have been based on the hypothesis that the X-rays are essentially rays of light; not necessarily rays falling within the numerical limits that enable them to be appreciated as light through the instrumentality of our very imperfect eyes, but of similar nature. The fact that these rays produce phosphorescence on a screen, wet with solution of

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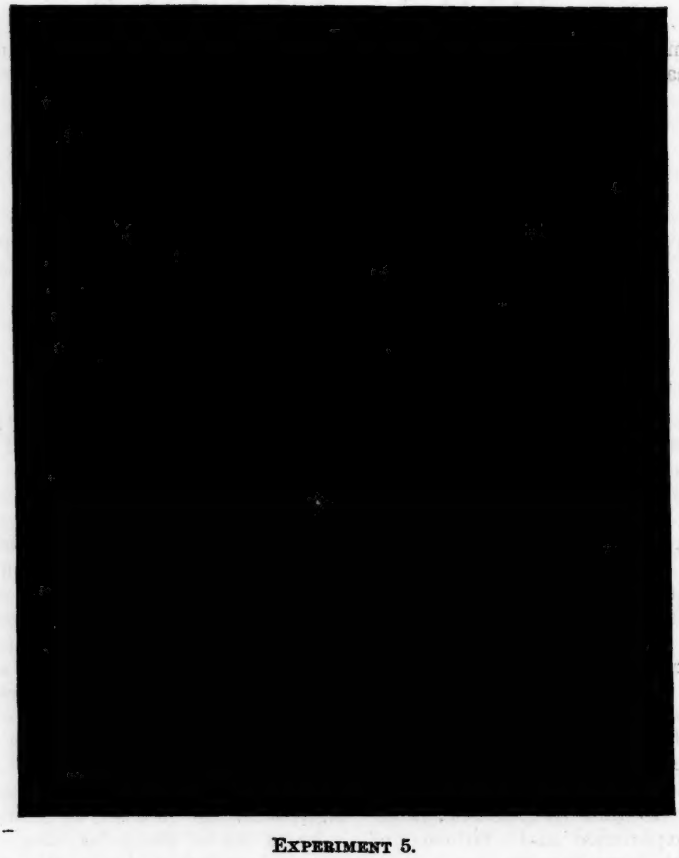
barium and platinum-cyanide, or similarly fluorescent chemicals, and that they can produce a permanent image on an ordinary photographic plate, indicate that they have *actinic* power, power thus far ascribed only to rays of the upper part of the visible spectrum and ultra-violet rays, unless we except the experiments with especially sensitized plates and long exposures by which infra-red rays have been photographed. Rœntgen in his first report, suggested several reasons for considering the X-rays as essentially different from those of light, yet the very recent experiments by which the sun's photosphere has been photographed suggest that if not falling within the definition of light rays, the X-rays may still accompany vibrations of light, and for practical purposes, the difference may be ignored.

Clinically, we need only find some ray which will penetrate tissues of the body within a tolerable period of exposure, and which can be handled without danger. The exact method followed by Rœntgen does not fulfill these indications except so far as superficial and not very thick parts of the body are concerned. Edison in a letter to the writer, has expressed the opinion that the use of a Crookes' tube inside the stomach would be exceedingly dangerous, and experiments have yet to be made to show that the rays can be passed through the viscera of the thorax and



EXPERIMENT 5.

Skiogram taken by exposure to naked arc light at distance of about two feet, for one hour forty minutes. Object at top, brass tube; in middle, paper fibre washer; at bottom, nickel-plated soft metal, with two perforations. The relative translucency of the paper fibre was quite evident in developing the negative. Further experiment showed that fifteen to twenty minutes would have been sufficient for a distinct image.

abdomen with any practical result. In fact, the irrefrangibility of the rays, has, thus far, limited their recording to silhouettes, and to obtain a sharp outline, the object and the plate must be in close contact and not too far from the source of the rays. The writer may be pardoned for dwelling on these theoretical considerations, as the only excuse for allowing Rœntgen's experiments to be made the starting point of crude and quite different experiments which, without this explanation, would be open to the criticism of being foreign to the subject of cathode rays, whatever they may be.

Experiment 1. Exposed hand in front of plate, with vulcanite cover undrawn, for twelve minutes before colored light of brush of dynamo. No result.

Experiment 2. Exposed wood and metal objects under same conditions, for one and a half hours. No result.

Experiment 3. Some with one hour exposure. No result. (These experiments were carried on at the same time, so that the result of No. 2 was not known till No. 3 had been tried).

Experiment 4. Exposed bar of wood with steel washer and nails in middle before sixteen candle-power incandescent light for one hour and forty minutes. Faint shadow corresponding to bar of wood. (Unless otherwise stated, the plate was simply placed before the source of light, covered with its vulcanite protective.)

Experiment 5. Exposed plate bearing a piece of nickel-plated soft metal, a piece of brass tubing, a washer of paper fibre, about two feet from naked arc light, for one hour and forty minutes. Clear silhouettes of all three bodies, the paper washer being slightly paler than the rest.

Experiment 6. Placed plate in tin can, with round perforation about $\frac{3}{4}$ inch in diameter. Put in front of plate, but an inch or two from it, a stick bearing steel washer and nails. Exposed for one hour to rays from naked arc light, about six inches distant from plate. Plate black from over-exposure.

Experiment 7. Exposed plate to incandescent light, sixteen-candle power, for three hours. A perforated tin plate was used to limit the rays, and the light was about six inches from the plate. Before the plate was placed a sheet of wood $\frac{1}{8}$ inch thich, with a similar sheet tacked on for half the distance. Matting tacks, ordinary carpet tacks, brass-headed tacks, cork, large glass stopper were attached to the wood. The plate when developed, showed the shape of the wood and the profile of the added piece, but did not show any of the other objects.

Experiment 8. Exposed hand in front of naked arc light for twenty minutes. As the distance was only about a foot, the heat was decidedly uncomfortable, and it is doubtful if a patient would submit to this experiment. Result: shadow of fingers, slight blackening indicating bones of first inter-phalangeal joint of index. This, however, disappeared as the development of the plate proceeded.

Experiment 9. Exposure of bar of wood, with steel washer and nails, covered by manilla envelope containing gall stones, for two hours in front of flickering Bunsen burner. No result except fogging of plate, though the experiment was conducted in a dark corner so that extraneous rays of light might not interfere.

Experiment 10. Colored Bunsen flame with copper, having tried unsuccessfully to get a permanent potassium flame. Exposed plate, covered with paste-board [in all previous experiments, vulcanite plate-covers had been used]. An iron enameled calendar frame with a bar of wood crossing it was placed over the cover and the whole exposed at a distance of six inches from the flame for four hours. Result showed that the plate had been affected. The outline of the calendar frame was vaguely seen, though openings in it and the bar of wood were not visible.

Experiment 11. Exposed hand, wrapped in four to eight thicknesses of black silk and holding plate with cover removed, within six inches of naked arc light for twenty minutes. Faint obscuration of plate, but no practical result.

Experiment 12. Applied plate, without drawing cover, to epigastric region, under clothing. Wooden ball electrode connected with negative pole of static machine applied to back, outside of clothing. Although a violet light was visible, streaming from the electrode,

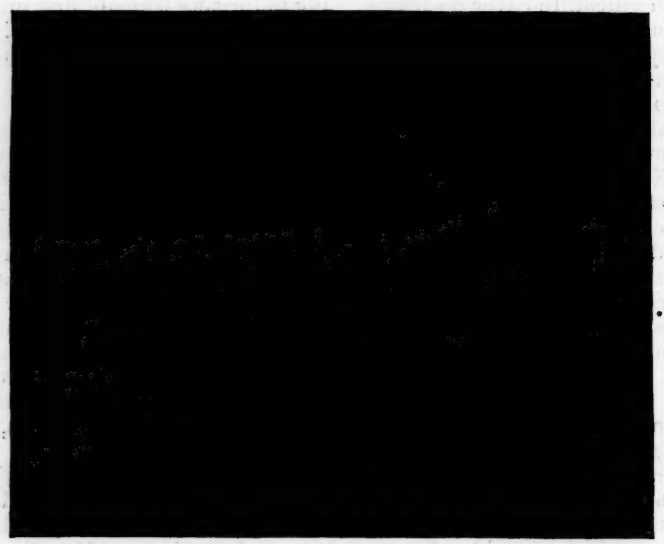
there was no result other than faint fogging of the plate. The precaution was taken to apply the plate so as to get a shadow of the sternum and chondral arch, in case the plate was affected.

Experiment 13. Exposed covered plate to sunlight; window open so as to have no obscuration of rays by glass. Scissors and gall-stones, the latter inclosed in a manilla envelope were strapped on to the plate with rubber bands. A clear silhouette was obtained of the scissors and bands, but not of the envelope or gall-stones.

Experiment 14. Exposed similar plate to sunlight for twenty minutes (on account of smoke, the actual exposure to bright sunlight was about fifteen minutes) with window glass intervening. The hand was rested on the plate. A distinct outline of the hand and fingers was obtained, but the light had only imperfectly penetrated the flesh.

From these experiments we may conclude that any source of bright light or even of heat with dull light, as the Bunsen burner, has the power of penetrating apparently opaque bodies and of affecting a sensitized plate. This conclusion is not new. Every photographer knows that even a protected plate must not be laid in the sunlight on account of the liability of "fogging."

The writer is not aware of the exact extent of past knowledge in regard to photographing through opaque bodies. So far as conversation with photographers and some rather cursory reading in works on the physics and chemistry of photography go, he would conclude that no definite line of experiments has been undertaken to elucidate this problem, but that occasional and often accidental results obtained in the past, have a clear significance in this connection. For example, one gentleman, writing to the *Buffalo Express*, tells of several young men who, in the early days of photography, had their picture taken to show their new stove-pipe hats. The men arranged themselves so as to form a "ladder," the face of each being behind the hat of the one in front of him. The picture, as was necessary in those days, was taken by a time exposure to direct sunlight. One of the faces appeared in



EXPERIMENT 13.

Skiogram taken by exposure to sunlight, no glass intervening, for forty minutes. The narrow lines are caused by rubber bands, used to hold the scissors against the plate-cover. The darkening of the upper part of the plate was caused by a doubling of an envelope containing gall-stones. The extra layer was behind the plate and the gall-stones were in the portion below. They do not show at all. The light spot corresponds to a hole in the envelope. Further experiment has shown that fifteen or twenty minutes exposure, even with a pane of window glass intervening, would be sufficient.

the proof as if seen through a hat. Similar occurrences will probably be recalled by many photographers. Unfortunately, a skiogram produced by exposure merely to a source of bright light, does not penetrate flesh, even in the maximum of tolerable exposure. Still, this difficulty may be obviated by improvement in technique. Recent experiments reported after the foregoing were made, show that the sun's rays do contain rays similar to, if not identical with X-rays. If this be true, we have at hand a cheap though sometimes inconvenient and often unreliable source of rays. It should be stated that some of the vulcanite plate covers, held within a few inches of a naked arc light, revealed a dull red point. Others were absolutely opaque, to the eye. The silk used to obscure the hand in one of the experiments was also absolutely opaque, though some action on the plate occurred through it. We can hardly imagine the dull red light transmitted by some of the vulcanite plate holders, to be the cause of the action on the plate. It was by no means so bright as the light allowed in the dark room. It seems reasonably certain, therefore, that, as part of or accompanying ordinary bright light, whether from arc or incandescent lamp, or from the sun, there are rays which have the power to penetrate apparently opaque substances of low specific gravity. Whether these are X-rays or not, the writer does not now pretend to decide.

The penetrability of ordinary light rays is not sufficiently great to be of practical use in the examination of the human body, without a length of exposure practically intolerable, or without great improvement in technique.

Some of Rœntgen's experiments suggested that wood might act to attract X-rays and might be adopted as a substitute for a lens in ordinary photography. In none of the experiments, in which different objects were exposed on a plate, did the wood have any such action. It was simply less opaque than metallic substances. Of course the fact that a different source of rays was used from that employed by Rœntgen, vitiates the direct applicability of this conclusion. However, it is verified by experiments at the hands of others who have used Rœntgen's method.

Other experiments have also shown that, from the lack of focussing power, in skiography, the object to be recorded must be in close contact with the plate. Thus, skiography through any considerable thickness of tissue will yield vague outlines. Gall-stones, either by the exact Rœntgen method or any of the mere penetration methods used by the writer, are too transparent to leave their trace. The same may be said of all other pathological formations, except those infiltrated with lime salts. Thus, skiography, however conducted, is likely to be of more service to the surgeon in locating foreign bodies than to the physician. However, the writer has in mind an expedient for locating the lower curvature of the stomach, which may prove successful and which will be reported, favorably or unfavorably, in due time.

N. B.—The writer desires to express his thanks for courtesies shown by Mr. Stott, manager of the General Electric Co., to Dr. R. H. Satterlee for the use of incandescent lamp, and to Dr. J. W. Putnam for the use of the static machine. Experiments have already shown that the static machine produces a brilliant fluorescence in an electric light bulb, with or without double connection of electrodes, and that the fluorescence from the pole of the machine or from a Leyden jar has the same appearance.

A new treatment of obesity is proposed, based on a new theory. One pound of lean meat and one pound of fish per day is used, with a pint of hot water every two hours. Nothing else in the way of food or drink is allowed. The theory is that, the food being purely nitrogenous, the needful hydrocarbons must be supplied by the absorption of fat. The large quantities of hot water are for the purpose of averting kidney disturbances, which often attack those who live largely on nitrogenous food.—*Popular Science News.*

HE—You can't impose upon me; there are no fools in our family.

SHE—Sir, you forget yourself.—*N. Y. Herald.*

COMMUNICATIONS.

THE TREATMENT OF TYPHOID FEVER.*

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At the beginning of my three months of service at Harper Hospital, in October, 1895, I resolved to try Dr. Woodbridge's method of treating typhoid fever, as it appeared reasonable in theory and had proved satisfactory in his hands.

Before speaking of this treatment in detail, let me call attention to some of the pathological conditions with which we have to deal. In common with most pathologists, we regard the Eberth bacillus as the cause of typhoid fever. Uffelmann has investigated the resistance of typhoid bacilli by drying, and their transmission in the air. Various materials after sterilization were saturated with water containing typhoid bacilli. The experiments showed that these organisms resist drying, and retain their power of development in earth twenty-one days; in white sand eighty-two days; in house and street sweepings thirty days; and on linen from sixty to seventy-two days. In a warm, moist atmosphere the duration was longer.

Sarnelli, of Rome, has studied the relation between typhoid virus and human and experimental typhoid fever, which, he says, "is not primarily an intestinal infection." From a series of experiments on guinea-pigs he concludes that Eberth's bacillus, after penetrating the organism, produces a toxin which exerts its force upon the nervous centres, causing death in the lower animals; acting upon the mucous membrane of the intestine, it gives rise to the familiar ulceration in the solitary glands, all of the symptoms presenting a close analogy to those of typhoid in the human being. In experimental typhoid, Eberth's bacillus is not frequently found in the intestinal contents; this fact militates against the idea that the disease is an infectious process, localized in the intestine. The absence of Eberth's bacillus from the intestine of the animals thus inoculated is to be explained by two circumstances: first, that typhoid fever is an affection of the lymphatic system only; second, that, directly the poison begins to act on the intestinal walls, the colon bacteria become pathogenic and increase so enormously as to assimilate all other forms. The colon bacteria are supposed to constitute the first cause of secondary infections.

The lesions of typhoid fever are generally divided into two groups—those characteristic of the disease, and the secondary changes in the tissue that result from the long-continued fever. The characteristic post-mortem changes are seen in the lymphatic glands of the intestine, the mesentery, and the spleen. The alterations are divided into four stages: (1) stage of infiltration; (2) stage of necrosis; (3) stage of ulceration; (4) stage of cicatrization. These pathological conditions are undoubtedly caused by the action of the bacilli upon the structure of the intestine. The separate stages are not necessarily chronological in the order of their development, but one, two, or even all three stages may be present in one Peyer's patch, and other glands may be found illustrating two or more stages.

The secondary infection of the mesenteric glands, especially near that portion of the bowel most affected, is undoubtedly caused by pathogenic bacterial absorption. Glands in other parts of the body are often enlarged and show on sectional bacterial infection.

The blood is vitiated, the white blood-corpuscle is destroyed, and the whole body suffers from constitutional infection, due to the long-continued fever, absorption of toxins, and destruction of blood-corpuscles.

*Condensed from *Medicine.*

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In the Woodbridge treatment we have a well devised attempt, to employ antiseptic methods which have yielded such brilliant results in surgery. We no longer hear of "laudable pus," but on the contrary it is now regarded as an avoidable evil. Intestinal antisepsis is the corner-stone of this treatment, and under Dr. Woodbridge's method it is pushed to an extreme limit. Three formulas are employed.

No. 1.

Podophyllum resin	1-960 grain.
Mercurous chloride, mild . .	1-16 grain.
Guaiacol carbonate	1-16 grain.
Menthol	1-16 grain.
Eucalyptol	q. s.

should be given every fifteen minutes during the first twenty-four hours, and oftener if necessary during the second twenty-four, until not less than five or six free evacuations of the bowels are secured during each of two consecutive days.

On the third or fourth day of treatment the following tablet is to be given at intervals of one and two hours:

No. 2.

Podophyllum resin	1-960 grain.
Mercurous chloride, mild . .	1-16 grain.
Guaiacol carbonate	1-4 grain.
Menthol	1-16 grain.
Thymol	1-16 grain.
Eucalyptol	q. s.

This formula, and also formula No. 1, should be given as freely as possible at first, then gradually reducing the size and frequency of the doses, the object being to so regulate them as to allow the movements of the bowels to become less and less frequent until the temperature has dropped to normal, when the movements will have been reduced to one or two each day. Should symptoms of ptyalism (a wholly unnecessary complication) supervene, the tablets should be promptly discontinued for a day or two, and, if necessary, sodium or potassium chlorate given, returning as soon as possible to formulas Nos. 1 and 2. About the fourth or fifth day of treatment the soft elastic capsules should be commenced:

No. 3.

Guaiacol carbonate	3 grains.
Thymol	1 grain.
Menthol	1½ grain.
Eucalyptol	5 minims.

one capsule to be given every three or four hours, alternating with the tablets.

During all the course of treatment the patient must wash down each dose of medicine with large draughts of distilled or sterilized water, or, if indicated, some good laxative or diuretic mineral water.

Note the physiological actions of the medicines used by Dr. Woodbridge:

Podophyllum is a slow cathartic and in minute doses a laxative which acts upon the liver and intestinal glands, increasing secretion. Neuberger concludes, after a series of experiments, that it acts simply as an irritant, exciting catharsis in its elimination by the intestinal glands.

The physiological action of calomel is well known. It affects principally the excretory glands in the lower part of the small intestine and the upper part of the colon. It is supposed that calomel is changed by the action of the hydrochloric acid of the stomach into the corrosive chloride, when it acts as an hepatic stimulant and cholagogue. Calomel acts also as a stimulant to the kidneys, and is useful in increasing the diuretic action of such drugs as squill and digitalis. It has an antiseptic action in the intestines, retarding decomposition, which power it retains in the presence of fecal matter, which accounts for the beneficial action of this drug in intestinal diseases due to micro-organisms. It is claimed (Langlois) that calomel limits the absorptive activity of the intestinal wall.

In guaiacol carbonate we have an excellent antiseptic. Wood-tar creosote is composed chiefly of guaiacol, creosol, menthol-creosol, and phloral, the guaiacol being present in the proportion of 60 to 90 per cent. Guaiacol is colorless, sparingly soluble in water, freely soluble in ether and alcohol, and is more agreeable to the taste and better borne than creosote. It has a special sedative action upon the nerves of the stomach, allays irritability and nausea, and checks fermentation in stomach and intestine. It is useful in diarrhœa dependent upon bacterial fermentative processes in the intestines, and its action as an antipyretic is more rapid than that of sulphate of quinine (Robilliard). It is a powerful antipyretic (Friedenwald and Haylen) when locally applied, and is readily

absorbed by the skin. It should be mixed with equal parts of glycerin and pure olive oil and painted on the skin over an area not to exceed 20 square inches; this to be covered with an impermeable dressing.

Menthol, a crystalline solid, with a sharp and pungent taste, has decided germicidal properties and is recommended as an intestinal antiseptic, though it is more frequently used as a topical remedy.

Eucalyptol excites the flow of saliva, produces a sense of warmth in the stomach, and acts as a carminative and antiseptic. The gastric and intestinal juices are increased by it; it is well borne by the stomach, and is decomposed in the intestine into hydrochloric acid. The excretion of urea is augmented and the action of the heart increased by eucalyptol, which is also an efficient antiseptic, minute quantities preventing putrefaction, though not checking the action of the digestive ferments. Shoemaker, in his latest work on materia medica and therapeutics, says "Eucalyptol exerts a decided antiseptic action upon the bowel; it is appropriate in the treatment of diseases involving the intestine, such as enteritis, typhoid fever, the green diarrhœa of children, etc."

Thymol is a valuable antiseptic. It is less powerful than carbolic acid, but is less poisonous and much less irritating. It is a powerful disinfectant and at the same time lowers arterial tension, lessens reflex action, and reduces temperature.

The first action of these remedies is to cause a flow of bile into the intestine, which emulsifies neutral fats, promotes osmosis, excites contraction of the muscular coats of the intestine, and prevents putrefactive decomposition of the intestinal contents (Langlois).

The stools of typhoid fever are fetid, ammoniacal, and alkaline in reaction, usually liquid, of a yellow-ochre color, often pultaceous, frothy, and so light as to float upon water, exhibiting bacterial fermentation (Pepper and Murchison). Bartlett compares them to new cider; others to pea-soup in color and consistency.

It is to be regretted that the stools of the cases that we later describe were not examined for the Eberth bacillus, but the clinical phenomena were sufficiently marked to justify a diagnosis, which was based upon the following symptoms: All the cases but three were sick from one to three weeks before entering the hospital; tympanites, with pain and gurgling in right iliac fossa; furred and coated tongue, with musty and semi-cadaveric odor from mouth—the edges and tips of tongue were usually red in the beginning, while later that organ cleared off and became red, glazed, dry, or fissured, or it became dry with the formation of brownish crusts, the gums and teeth showing sordes; diarrhœa usually developed at the end of the first week, varying from a light yellow-ochre, and extremely offensive, to a dark bloody or even blackish appearance; enlargement of the spleen, with tenderness on pressure. Most of these symptoms were noticed on the first examination in nearly all the cases; rose spots over lower part of thorax and chest were present in all but one case, and were looked upon as the final proof of the typhoid state.

In the care of the cases of typhoid fever during 1893, the antipyretics acetanilid and phenacetin were given when the temperature rose to 102.5° or 103°. Salol was also given for its carbolic-acid anti-fermentative effect in the intestinal tube. The former antipyretics, even in small doses, produced great depression of the heart, and the longer they were continued the more susceptible were the patients to the depressant action, with a consequent lessening of the antipyretic effect!

Plunge baths were given an effectual trial, but they did not produce the brilliant results claimed by Brand. It is so laborious a method that it seemed impracticable, tiring out the nurses and attendants, to say nothing of the exhaustion of the patients. We have had better results from sponging when the temperature has been 103° or over. Sponging with alcohol and water has been used with the Woodbridge method, and has proved successful, relieving patients without causing the chills or cyanosis that so frequently followed the plunge bath.

I call attention to a series of thirteen cases that were under my care from October 1 to December 31, 1895, in

which the Woodbridge method was used exclusively. In all the cases it proved satisfactory, shortening the disease and lowering temperature. In all cases when the temperature reached 103° a sponge bath was ordered, as it gave relief and quieted restless patients. These were rarely required after the fourth or fifth day, because of the rapid reduction of the fever.

These thirteen cases are reported very briefly, as they were all treated similarly. The cases are given as they appeared in the hospital. They are not selected, but are all the cases that came under my care while I was on duty.

Case No.	Continuance of Fever	Case No.	Continuance of Fever.
1	17 days	8	15 days
2	5 days	9	15 days
3	23 days	10	8 days
4	7 days	11	16 days
5	13 days	12	18 days
6	12 days	13	12 days
7	14 days		
			176 days

It will thus be seen that the average duration of treatment was $13\frac{7}{13}$ days.

Case No. 2 showed a very decided and rapid fall after being under treatment for two days. Temperature was sub-normal for three days, after which it remained normal. Patient had been sick three or four days before entering the hospital.

No. 3 had been recently confined, and it was thought the puerperal state might have affected the fever, which was very high during the first week. It was a bad case from the start, and proved the good effect of the treatment that was being tried—for after the first week the temperature fell and remained below 103°, only touching that point twice during the week and once during the following week. She was very delirious in the first week, and it was thought she might die—in fact, we felt that with any other treatment she certainly would have died—but she made a good recovery and was discharged well. Her temperature, Oct. 3, at 8 A.M., was 103°; at 4 P.M., 104.4°; at midnight, 104°. Oct. 4—8 A.M., 104°; 12 noon, 104.2°; 4 P.M., 105.2°; midnight, 104.4°. Oct. 5—8 A.M., 103°; midnight, 104.2°. Oct. 6—2 A.M., 104°; 4 A.M., 103.6°; 12 noon, 104.2°; 4 P.M., 105.8°; 8 P.M. and 12 midnight, 105°. Oct. 7—4 A.M., 105°; 12 noon, 104°; 4 P.M., 105°; 8 P.M., 105.4°. Five plunge baths, thirteen sponge baths, and three cold packs were given during the week.

No. 4 was seen early, and the clinical symptoms were plain. The medicines acted promptly and with gratifying results, the sub-normal temperature lasting one week, with the evening temperature rising to normal. This peculiarity is especially to be noted.

No. 5 was another "aborted case,"—after the fourth day the temperature was normal, and it did not rise again above 100°. This case was practically well in five days, though the evening temperature rose one-half a degree above normal for six days more, with morning temperature normal.

No. 6 showed the evening temperature on the fourth day falling instead of rising, and by the thirteenth day remaining normal.

No. 7 entered the hospital in a collapsed condition, having been sick about seven days. On the fifth day of treatment the temperature fell, remaining below 101° for two days, and then falling to normal in the morning and 100° in the evening for five or six days, when it remained at normal and convalescence progressed rapidly.

No. 8 showed marked hebetude from the beginning, and had to be roused for every dose of medicine and for food; the temperature never rose above 102°. He made a good recovery, the temperature reaching normal in fifteen days. He had several hemorrhages during the fever and several successive crops of rose spots.

No. 9 suffered a relapse after having been up for a week, the primary attack having lasted three weeks. The former attack had not been treated by the Woodbridge method. The temperature did not show a marked decline until the seventh day; it would probably have remained normal on the ninth or tenth day, but the gums had become soft and painful—due to too much mercury.

No. 10.—This case was seen in the beginning. Patient had been feeling miserably for several days, but was not sick enough to go to bed. The diagnosis having been early established, the Woodbridge method was pushed to see if the case could be aborted. There was a good deal of tenderness over iliac fossa, with gurgling and tympanites. The

afternoon temperature kept falling from half a degree to a full degree each day after the patient had been thoroughly medicated. On the eighth day the temperature was normal, appetite returned, tongue cleared, and abdominal symptoms disappeared. The rose spots persisted for seven or ten days after the disappearance of the fever. The gums were slightly "touched" because of old specific disease.

No. 11.—On the eighth day the temperature fell from 102.6° to 100°, with a degree more for evening elevation. This case was the only one that showed no rose spots. The spleen was enlarged and tender. She had indigestion after taking the medicines, but made a good recovery in sixteen days.

No. 12 showed marked elevation and fall; on the eleventh day the temperature was much reduced, and on the eighteenth day was normal, where it remained.

No. 13 was a typical case. On the sixth day there was a marked fall in temperature, which would probably have remained normal, had the patient not suffered from ptyalism. Notwithstanding the salivation, the typhoid symptoms improved steadily, and he made a rapid recovery.

I have used in the cases above reported the formulas as prepared by Parke, Davis & Co., in harmony with Dr. Woodbridge's instructions. Prescriptions Nos. 1 and 2 are tablets, and No. 3 is issued as a soft elastic capsule. These are easy to administer, accurate, and reliable.

In conclusion I wish to say that in my hands this treatment has worked most satisfactorily, shortening, aborting and greatly modifying the severe cases of typhoid fever. There is no tendency to relapse, no unfavorable complications arise, and the bad effect of prolonged stimulation is done away with. I found the plan a most successful one, and heartily commend it to my fellow practitioners.

CURRENT LITERATURE CONDENSED.

The Surgical Treatment of Dysentery.[1]

In my locality we have, every spring and summer, an epidemic of dysentery, usually beginning among the negroes but extending likewise to the whites. I observed a spasmodic contraction of the anus, and this condition I thought was due to the irritation of the rectum which excites the sphincters into firm contraction. The contracted condition of the sphincters I concluded prevented a complete evacuation of the contents of the rectum, and thereby produced the tormina and tenesmus so characteristic of this disease. Having reached these conclusions I dilated the sphincters as for fissure *in ano* with such success that I now dilate both internal and external sphincters immediately on seeing a case, but not quite to the same extent as in fissured anus. It is my custom to give chloroform, though I have operated on quite a number without doing so. The after-treatment consists in irrigating the rectum with antiseptics and astringent solutions, although warm boiled water with the addition of two drachms of powdered borax to the quart has given me as good results as anything else. After the dilatation of the anus the dysenteric evacuations cease. The usual internal treatment is given, my preference being calomel, salol, and ipecac in small doses given hourly until the physiological action of the calomel and ipecac is obtained, followed by a saline cathartic. If necessary one-quarter of a grain of morphine is given with $\frac{1}{150}$ of a grain of atropine hypodermically. The diet should consist of broth and raw eggs. As our water in the country is all surface-water, I order boiled water for drinking purposes.

[1] E. L. Patterson, M.D., *Atlanta Medical and Surgical Journal*, March, 1896.

Two Cases of Fracture of the Femur Without Shortening.[2]

I report two cases of fracture of the femur without shortening, because of the comparative rarity of securing union in these cases without shortening.

[2] A. R. Small, M.D., *The Chicago Medical Recorder*, February, 1896.

A boy five years old fractured the left femur at the junction of the upper and middle thirds, the upper fragment protruding anteriorly through the skin. The fragment was oblique downward and forward. There was unusual muscular contractility calling for considerable extension force. The patient was anæsthetized, the wound thoroughly cleansed and an antiseptic dressing applied, and over this a temporary plaster bandage. Next day an opening was made in the plaster to allow dressing the wound. Gauze packing was freshly applied every day until the skin only remained unhealed. A permanent dressing was now applied with extension strips and over these a plaster dressing from the toes to and including the pelvis, strong extension being used at the time of dressing and a weight of nine pounds with the pulley afterward. About two weeks later I found the limb somewhat shortened, and learned that the weight had, on one or two occasions, been permitted to rest on the floor. Finding that extension would not relieve the deformity the dressing was removed and shortening of two inches found. The boy was again anæsthetized, the bone re-fractured, and a similar dressing applied with an extending weight of sixteen pounds. Five weeks later there was perfect union without shortening.

In the second case a boy ten years old had been treated for six weeks with plaster-of-Paris dressing, and an extending weight of fifteen pounds. At the end of this period there was union with some shortening and the boy fell, refracturing the bone. A similar dressing was again used with twenty-five pounds extension, and rubber tubing from the perineum to the head of the bed for counter extension. Later the tubing was placed under the arms as the perineum was irritated. Union without any shortening was the result in this case also. The weights usually recommended for use in such cases are insufficient, and also in cases such as this the muscular contractility is lessened after some disuse with the addition of even slight extension. Therefore, I believe it is not only justifiable but right to refracture and reset the bone when, after from four to six weeks a limb is found united in a shortened condition.

Small-Pox.[3]

The diagnosis of those typical cases which have never been vaccinated, so graphically described in our text books, is comparatively easy; but in the milder forms and in those modified by vaccination it is more difficult. One frequently finds all the subjective symptoms absent, only a few papules becoming vesicular and rapidly drying up, often of such insignificance that a physician is not called. During my term of three months as examining physician to the Board of Health, I was called to three hundred and twelve cases suspected of small-pox, fifty of whom proved to have the disease. The distinguishing point from chicken-pox is the regularity of the eruption. The eruption comes out at a stated period, beginning on the face and hands and extending over the trunk and extremities in regular order from the papule to the vesicle, and then the pustule, the lesions all over being similar at the same time; whereas in chicken-pox the eruption comes out in patches or crops, a papule here, a vesicle there, and pustules between the two, and a scale falling off somewhere else. Of course, in varicella the symptoms are, as a rule, milder. I remember seeing with Doctor Carrier a case of varicella in a young man of twenty, where hardly a normal portion of skin remained, so profuse was the eruption on the trunk. I have yet to see a case of chicken-pox with the lesions all in the same stage of development, and in over two hundred cases of small-pox I have yet to find papules, pustules and vesicles generally commingling. I would like here to say that it would be advisable to call all cases of chicken-pox in persons over twenty-five, small-pox. Chicken-pox is a disease of the young, and, though cases in the adult have been recorded, it is so rare in persons over twenty-five, and there is such difficulty in diagnosing that I think it advisable to quarantine such cases. Measles presents the next difficulty in diagnosis, but the papules are red and do not assume the purplish hue of small-pox. The distinguishing feature though, is that the small-pox papule quickly becomes vesicular; that of measles, never.

[3] Hedley Williamson, M.D., *The Physician and Surgeon*, February, 1896.

Scarlet fever should not offer much difficulty in diagnosis. Here the color is characteristic, being a bright scarlet, and on drawing a finger over the surface leaves a white mark. It is clear that vaccination has a tremendously modifying influence even in the extreme cases. *Doctor Morrison* never lost a case where there was a *successful vaccination mark* present, and I can say the same of about forty cases which I have treated. There have been some severe cases too.

As regards treatment, I have found supporting the best. Good, nourishing, easily-digested foods, forced feeding, large doses of quinine and iron, followed by the liberal use of stimulants and heart tonics, as strychnia. In the secondary fever cold baths were used with pleasing results.

In conclusion, most dependence should be placed on the character of the eruption. Isolate as much as possible until the eruption appears. Look for tiny purplish-red papules around the forehead, under the lower lip, and around the wrists.

Incision of Retropharyngeal Abscess According to Antiseptic Principles: From the Neck.[4]

If we have to open a deep-seated abscess in the neighborhood of the large cavities or canals of the body, it is better surgery to do this from outside than from within. The prostatic and retropharyngeal abscesses are types of this class of cases. Of course, where the pus has passed under the external cervical aponeurosis toward the lateral surface of the neck, a direct incision from outside is self-understood. In view of proper irrigation and drainage, the incision from the neck will be preferable in all retropharyngeal abscesses of septic origin, and the prognosis of a tuberculous abscess here will be much benefited by the "antiseptic incision." Two methods have been proposed. An incision may be made from the mastoid process along the posterior border of the sterno-mastoid muscle, and then with finger and probe go down to the anterior aspect of the vertebral bodies. By dividing the deep fascia, and retracting anteriorly the muscle with the complexity of vessels, the retropharyngeal space is reached. Another method is to cut at the level of the larynx on the inner side of the sterno-mastoid muscle through skin and platysma. The vessels of the thyroid gland are first encountered (a larger or smaller subcutaneous vein which may communicate with the thyroid vessels is to be caught between two artery forceps, cut and ligated).

Between them on the outer, and the larynx on the inner side the inner border of the common carotid is quickly exposed by blunt dissection. As no branches are here given off one may safely make in the depth an incision with the knife just at the side of the larynx, or rather the lower end of the pharynx into the thickened tissue which is generally found here in these cases on account of the neighboring purulent inflammation. If this incision is then enlarged by opening the branches of a slender dressing forceps or similar instrument, the retropharyngeal space is fully and easily accessible. In every case operated on by me I have been impressed with the comparative ease with which it could be performed, even in babies, and I do not hesitate to pronounce it *the duty* of the surgeon to-day to discard the old method and to let the treatment of these abscesses benefit by the blessings of antiseptic surgery.

[4] Willy Meyer, M.D., *American Medico-Surgical Bulletin*, April 4, 1896.

Woman in Sanitary Work.

Just at present, aside from the clubs, labor bureaus, coffee-houses, gymnasiums, and the many vivid interests of Hull House, Miss Jane Addams has undertaken the task of keeping her ward clean. Imagine this woman, whose clear blue eyes, winning smile, Madonna-like head and sweet delicacy of expression and manner proclaim her the gentlewoman, cheerfully undertaking the duties of garbage inspector of her ward. This office she has performed so thoroughly and well that she has called forth the encomiums of the Chicago press. She was also one of the committee appointed to investigate the frightful condition of affairs at the Dunning Asylum, and carried her duties still further into the personal examination of the unfortunate women inmates, and the sanitary condition of their wards.—*Jenness Miller Monthly.*

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PHILADELPHIA, SATURDAY, APRIL 11, 1896.

EDITORIAL.

TO THE NEW ARRIVALS: GREETING!

The REPORTER extends a hearty welcome to the six thousand or more young men who are about to enter the ranks of our profession, and it takes occasion to utter some words of advice which may lack many of the pleasing features of the typical congratulatory address, but which may prove of service in proportion to their candor.

Bitter disappointment is in store for those who leave the medical school, thinking that a yearning world awaits them. Statistically speaking, an addition to the numbers of our profession is as little needed as chalybeates by a plethoric person. But statistics do not adequately represent facts. While neither the profession nor the public needs mere routine practitioners, there is always room, always a demand for men who have the brain, the education and the energy to aid in solving the many problems which still confront us.

Perhaps a glimpse at the business conditions which await them, may be of service to the new-comers. We are manifestly limited to the average results of experience and observation and we earnestly join in each individual hope that one's own fate may be an exception. The income of the average, established physician, after deducting actual busi-

ness expenses from gross receipts, can not be far from a thousand dollars annually. Some consider this too high an estimate. At current local rates, however, the professional experience corresponding to this income will be double what might appear, since, in discounts, bad debts and charity, most doctors lose at least fifty per cent. of their gross earnings. It is comparatively easy to calculate that the average physician is not overworked by legitimate practice but rather harrassed by bad debts, by the necessity of keeping up appearances on an inadequate income, and by being compelled to work unsystematically. Many young physicians complain that professional courtesy is confined to pleasant words. We do not believe that any avocation unites old and young on so friendly a footing as does that of the physician, but the rival who asks for substantial concessions from his established competitors is going beyond the limits of reason.

"Where shall I settle?" is a burning question with most recent graduates. "Hang out your sign where you are willing to make a home," is good advice provided one is in a position to choose. The experience of a number of fairly successful physicians who adopted this suggestion, was that their respective incomes for the first year of practice had ranged from fifteen dollars to about five hundred. Perhaps the average may be considered as three hundred dollars. All were practically agreed that a man locating in a desirable part of a good-sized city, without direct professional "backing," could not expect to become self-supporting in less than two or three years. It is futile to attempt to avoid competition by seeking a residence remote from other physicians, for the neighborhood practice of the last decade has almost disappeared and the general use of telephones makes one physician practically as near as another, save in cases of emergency. The young man compelled to earn a living from the outset, is almost forced to choose some small village where an actual vacancy exists. The supply of assistants is so far in excess of available positions that the latter are scarcely obtainable except through personal influence; the salary is seldom more than ten dollars a week and more frequently it is nothing, while, occasionally, the assistant is forced to pay roundly for the privilege of a partnership. In this connection, we may advise the inexperienced physician not to try to buy a practice. Goodwill cannot be bought and sold, and if a doctor is so situated that he can turn over his practice to a new-comer, the latter can gain it by his own efforts. However, it must be conceded that a senior practitioner may gradually introduce a partner to a good practice, but this is the work of years and it involves the sacrifice of individuality, while such positions are seldom open to those most in need of them.

We might paint a more glowing picture of medical practice, but not in true colors. An editorial friend has summed up the doctor's life somewhat as follows:

"The first five years is a constant and apparently unavailing struggle. The next five years is hard work, but the successful man can see that he has made some progress. After that it is a comparatively satisfactory life, but the work is always hard and the pay relatively small. The man who stands at the threshold of a medical career must consider well whether financial success will be necessary to his contentment. If so, every day spent in medical practice is a loss of time. The most phenomenal physical and mental endowment, combined with influence, social standing, personal magnetism, energy and good

luck enable a few physicians in a generation to attain what would be considered moderate business success. But without all or most of these gifts of fortune, the physician, like the minister and teacher, must accept as inevitable a life of comparative poverty.

"On the other hand, the man who is thoroughly in love with his profession will find many, though not very substantial, rewards for the performance of his duty. But dogged, almost mulish, perseverance is necessary to success. The man who abandons medical practice after five years must inevitably confess, 'I have failed.' The one who leaves it after a decade can say no more than, 'My prospects are promising.' After twenty years, the physician may regard, not his worldly possessions, but his intellectual attainments, his reputation and, best of all, his practical accomplishments in relieving pain and averting disease and death, and may modestly but truly say, 'I have succeeded.'"

CORRESPONDENCE.

CAN THE GROWTH OF BONES BE DEVELOPED BY REMEDIAL GYMNASTICS?

EDITOR OF THE REPORTER:

Sir:—If we investigate a case where the growth of the bones in one limb has been checked, we find the immediate cause to be diminished blood supply, a result of an enfeebled condition in that portion of the spinal cord from which the limb where the disturbance exists receives its nerve supply.

Whatever caused this disturbance in the affected portion of the cord, the result was diminished circulation which induced weakness. To aid nature in restoring normal conditions, that portion of the cord must be strengthened and the volume of circulation be restored; also endosmose and exosmose accelerated throughout the limb, including the bones where the growth was interrupted.

Digestion and assimilation, if impaired, must be restored to normal action before the actual treatment commences.

In a paper entitled, "Can the distribution of the blood and its connection with the surrounding tissues through exosmose and endosmose, be controlled by remedial gymnastics?", I demonstrated that the circulation throughout the spinal cord can be controlled. Consequently we possess the remedy to restore the cord to its normal condition.

It is also proven that the circulation through the legs, including the bones, together with exosmose and endosmose, can be controlled. Thus we have the means to aid nature to remove the two abnormal conditions which caused the retarded growth; *i. e.*, decreased nerve supply from the cord, and decreased blood supply to the leg.

As the growth in soft parts is resumed when the cause which checked it is removed, experience convinced me the growth of bones, going on in the same manner and governed by the same laws as in the soft tissues, when the cause which checked the growth in both is removed, nature will resume its work as well in the one as in the other.

Since it has been demonstrated that in a full grown person muscles and soft tissues, which through some cause have been undeveloped, will resume growth if the cause has been overcome and nature receives aid in the right direction, why should bones be an exception, when they are renewed by the same processes and governed by the same laws as other parts?

Pittsburg, Pa. HENRIC SPARRE, M.D.

THE TOPICAL USE OF PURE CARBOLIC ACID.

EDITOR OF THE REPORTER:

Sir:—Having recently noticed in journals several articles on the use of carbolic acid as a topical application in extensive burns, scalds, etc., I have decided to enter a protest against the careless use of such deadly poison.

I remember to have seen an article in the *American Journal of Medical Sciences* (I forget the date and number of the journal), on the very great danger of using even a solution of a drug so powerful, topically, especially in the special treatment of rectal or vaginal troubles; the author citing several cases where death was threatened by the absorption of this agent, and it may be possible that one or two cases died.

A few years since I operated for paraphymosis, where, on the glans and adjacent prepuce, were a number of chancroidal sores. After finishing the operation I found an abrasion about three lines in diameter on my own hand between the thumb and fore-finger, and I immediately applied chemically pure carbolic acid. It stung for a few seconds and then a very nearly complete local anæsthesia resulted, extending back at least two inches from the abrasion toward the wrist and of about the same extent. I remembered, at the time, that gangrene was an occasional result of the application of the drug and I was very uneasy, but the recovery was complete in an hour or so.

Now since a very small dose of this drug produces death rapidly, is it not hazardous to apply to an extensive surface the chemically pure acid? May not there be sufficient absorptive power left to take up enough to prove lethal?

I write more to encourage immediate investigation, for I deem such a use of this agent a very dangerous proceeding.

J. E. STINSON, M.D.

Montague, Tex.

ABSTRACTS.

RED BONE MARROW IN THE TREATMENT OF ANÆMIA.

Dr. Robt. L. Watkins, (*The American Medico-Surgical Bulletin*) says:—"The interest attached to the question of the value of bone marrow in the treatment of anæmia leads me to report the following case:

"Miss Esther C., aged sixteen years, came to Prof. Chas. L. Dana's Clinic for Nervous Diseases at the Post-Graduate Hospital on January 9, 1896. She gave a history of having been ill for more than two years. She had suffered from weakness, loss of appetite and headaches. During the past four or five months she had slight fainting spells, and had two attacks which were quite severe. There was no history of aura or of any convulsive movements. Digestion was often disturbed and she had a bad taste in the mouth mornings, and a tendency to constipation. Her headache was situated in the brow and running up to vertex. She also had pains in the back. She had never menstruated. She had cold extremities and evidences of weak circulation. Examination showed no objective signs of disease, except a most pronounced and striking anæmia. The case was looked upon as one of the ordinary forms of chlorosis in girls. She had, however, been treated for two years, as stated by herself and mother, with large doses of iron, including Blaud's pills. She also had arsenic and tonics of all kinds. The fact that she had not improved under iron and arsenic, and the ordinary measures directed toward this condition, suggested the possibility that bone marrow was indicated. She was, therefore, placed upon two drachms of

Carnogen, a uniform preparation of red bone marrow, three times a day, with absolutely no other treatment.

"The patient rapidly improved, and a month after treatment showed decided decrease in pallor, there was very little headache, and she had no more fainting spells.

CASE I.—J. E. B., a machinist, aged thirty-five. In 1889 he was injured by a heavy casting which fell on his leg. He was a delicate man, anæmic, and had formerly been a hard drinker. An extensive necrosis of the tibia occurred in 1892, which was operated upon by a surgeon in a western city. Since then he had had from time to time some exfoliation of bone. He had suffered a great deal, and was pale and so physically weak that he was unable to work. On December 23, 1895, he was placed upon Carnogen in doses of ʒss three times daily. At this time his count of red corpuscles was only 1,534,000 and his weight was 127 lbs. (height, 5 ft. 8½ ins.) February 23, 1896, his appearance had decidedly improved and there was a gain of 16 lbs. His red corpuscles had increased to 3,428,000 and his color was good. He has resumed work.

CASE II.—Mary E., a seamstress, aged eighteen years, overworked and going all day without food. Very pale—sclerotics blue—passed large quantities of hysterical urine, backache, ovarian pain; blood count only 830,200, hemoglobin 35 per cent. She was put on Carnogen January 3, 1896. On February 22, 1896, there was a gain of over one million corpuscles and 20 per cent. of hemoglobin. Has gained appetite, flesh and strength and sleeps well, which she did not do for months.

CASE III.—E. S., clerk, twenty-nine years, has had pulmonary tuberculosis for three years. Much emaciation, evening rise of temperature, and gastric derangement. Has had one slight hemorrhage, thoracic signs marked in both lungs, fetid necrotic odor of breath. Has for over a year taken cod-liver oil alone or in emulsion with hypophosphites and creasote. On November 20, 1895, he was put on Carnogen in tablespoonful doses, with the Carbonate of Guaiacol in three grain doses every four hours. The change was immediate and encouraging. The temperature fell, respiration became less frequent and appetite and digestion were better than they had been for months. In two weeks the cough abated materially and the color returned. In six weeks a gain of twenty pounds had occurred, and the good results have been progressive and lasting.

CASE IV.—A. R. S., forty-six, a cotton broker, had for some time suffered from a nasal obstruction which necessitated an operation. The hemorrhage after the operation was excessive and after much difficulty was arrested, the patient being left in a state of very great prostration, he being almost pulseless, and was exsanguinated. He could hardly lift his head from the pillow without great faintness ensuing. Tablespoonful doses of Carnogen were given every hour, with small quantities of Scotch whiskey. He revived rapidly, the pulse apparently gaining from hour to hour and his whole condition changing so that by the next day he was able to sit up for a short time, and in a week was at his office.

CASE V.—Miss E., an actress, hysterical and irregular in her habits, menstruating every three weeks, and losing much blood. She was pale and weak, and her blood corpuscles were only 1,340,000, hemoglobin 30 per cent. She had taken bromides and phenacetine for insomnia and headache. Carnogen in teaspoonful doses produced in three weeks a rapid amelioration in her condition. She regained her color and appetite which had been capricious. Meanwhile, curetting of the uterus had been performed by a gynecologist. The next menstruation was profuse, but succeeding periods were unattended by any great loss. In two months Carnogen had brought the corpuscular richness up to over four millions, with a corresponding gain in hemoglobin.

CASE VI.—Miss D., nineteen, with insane family history, began to have delusions of a depressing nature in October, 1895. This had for several months been preceded by neurasthenia, attended by insomnia, loss of appetite, and constipation. She tried upon one occasion to kill herself by cutting her wrist, as the result of a false idea of her own wickedness. The red blood corpuscles were diminished over 50 per cent., and

were uneven and distorted. She was put upon Carnogen, November 7th, taking two teaspoonfuls three times daily, and afterward a tablespoonful. She soon gained, and slept better than she had in weeks.

Her extreme depression disappeared, and her delusions as well, in two weeks. A general gain was apparent, which continued, her red corpuscles increasing to over four millions, with corresponding improvement in the amount of hemoglobin.

CASE VII.—W. C. C., forty-eight, had suffered from intestinal indigestion and gout, with flatulence, constipation and insomnia. The attacks of joint pain came frequently, and as the result of very great physical pain and through malnutrition, he had lost flesh and was depressed, irritable and sallow. Carnogen, in dessertspoonful doses, given in combination with the salicylate of soda in small doses (gr. x t.i.d.), produced a rapid amelioration in two months after its use. He was in every way different, his pain had disappeared, and he became strong and of good color.

COCAINE INEBRIETY.

T. D. CROTHERS, M.D.,* HARTFORD, CONN.

There are very few cases on record of the use of cocaine alone. Alcoholics and opium-users often turn to cocaine to assist in breaking up the addiction for these and other narcotic drugs. Cocaine used as a spray for diseases of the throat and nose is very commonly followed by cocaine inebriety. The rapidity with which this drug has come into use, and its abuse among professional and business men who occupy positions of prominence, have already called into question some medico-legal relations. A brief outline of its effects on the body will make these questions clearer.

Cocaine owes its special dangers to three causes. First, it is particularly treacherous. Secondly, it produces early mental breakdown both in the moral and intellectual spheres. Thirdly, it is intensely toxic, bringing about destructive tissue-changes after a comparatively short period of abuse. Taking the last first, we know that alcoholic poisoning is usually a slow process, while morphine may be taken in very large quantities for years without producing any serious structural changes in the nerves. In fact, we recognize no distinct pathological results of morphine poisoning. On the other hand, the marasmus of chronic cocaine poisoning, appearing early and developing with extreme rapidity, is but one indication of the serious organic changes that are produced. Convulsions similar, as Richet points out, to those of cortical epilepsy, have been noted in a great number of cases. In at least one recorded case, death occurred in an epileptiform attack. In animals poisoned with cocaine, remarkable rise of temperature has been observed by Mosso Reichert and others. Acute poisoning in animals kills by asphyxia; chronic poisoning, as Zanchevski shows, is accompanied by albuminous degeneration of the ganglionic cells in the medulla oblongata and spinal cord, as well as of the nerve-cells of the heart ganglia, and of the liver cells. In other more advanced cases this author has found atrophic changes with vacuolation in the cells of the medulla and cord, fatty degeneration of the muscular fibres of the heart, and atrophy of the liver cells. Degenerative changes also occurred in the arterial coats, particularly in the spinal cord. Perhaps organic changes similar, but less in degree, account for the slowness and difficulty in recovering from the cocaine habit, and the liability to dangerous collapse which exists during the process of withdrawing the drug.

The treacherous and insidious char-

*Superintendent Walnut Lodge Hospital, etc.

acter of cocaine results from the fact that when taken in small doses it produces at first apparently nothing but a slight degree of exaltation, a sense of well-being, a feeling of mental and bodily activity, of general satisfaction, and of good humor that is most agreeable. There is no mental confusion which the consumer of cocaine is conscious of, and the only overt symptom he betrays at this stage is a more than natural talkativeness. The hypnotic effects, when they appear, are not overwhelming, and there is no headache, no nausea, no confusion next day. Thus cocaine is probably the most agreeable of all narcotics, therefore the most dangerous and alluring. It is to be feared that these peculiar qualities may, indeed, conduce to raise this drug in the future to the bad eminence of being, as Erlenmeyer says, the third great scourge of the human race (alcohol and opium being the first and second). Like several other observers, I have satisfied myself by experiments on healthy persons, that the agreeable results described actually follow the ingestion of small doses of cocaine, and this fact impresses one strongly with the feeling of how seductive this drug would be to the neurotic or debilitated. Of course, as is the case with all narcotics, small doses soon lose their effect, and hence a rapid increase is necessary.

The rapidity with which mental symptoms of a grave character appear is remarkable in cases in which increasing quantities of cocaine are taken. Within three months marked indications of degeneration, loss of memory, hallucinations, and suspicion deepening into persecutory delusions, have been found.

The following is a characteristic clinical picture: on the one side the cachexia or bodily ruin, on the other side the moral impairment and pronounced mental affection. Patients who use cocaine alone, and those who have endeavored to wean themselves from morphine by its aid, and so added cocainism to the morphine habit, appear marasmatic. The skin is of a pale yellowish, almost cadaveric, tint, and withered feel; the extremities are cool and covered with cold sweat. The eyes are deeply sunken, glistening, and surrounded by a dark ring; the pupils widely dilated. Appetite is lost; digestion disturbed. Salivation, with dryness of throat, may be complained of, and further, partial sensory disturbances or total analgesia. From the paralyzing action of cocaine upon the blood-vessels, patients complain of palpitation and breathlessness, troublesome sweating, and noises in the ears, and also syncopal attacks and dyspnœa. The pulse is more frequent and easily compressible. They suffer from a want which must be satisfied; they become nervous, trembling, and fall into a wretched condition of neurasthenia.

Speech is disconnected and can scarcely be understood; impotence, and incontinence of urine, may appear. Sleeplessness sets in early. One of the most characteristic effects of this habit is the occurrence of muscular twitching, tonic and clonic convulsions, and finally epileptic attacks, in which the patient may die. The mental symptoms may take the form of hallucinations, usually of general sensation, but not infrequently of sight as well. General mental weakness may set in rather early, to be observed in loss of memory and unusual prolixity in conversation and correspondence. When the drug is withdrawn, besides the vaso-motor symptoms there may be seen depression, impairment of will-power, weeping, etc. The chronic form does not protect from acute intoxication.

It will be evident from this that crime of various degrees will most naturally follow the cocaine habit.

Several instances have been noted where cocaine has been associated with alcohol.

The use of cocaine impairs the power of judging of the nature of acts, and their natural relations. In one case a cocaine inebriate gave a suit of clothes to a friend, and the next day sued him for a loan of three dollars. Acts like this, devoid of judgment and reason, reveal an unstable brain—at one time suicidal or homicidal, then deliriously buoyant, generous and forgiving, or suspicious and dangerously revengeful, and at all times suddenly changing to the most opposite extremes of thought and conduct.

When alcohol or opium is associated with cocaine, still more complex and unexpected acts may follow. Crimes of a homicidal nature will be sudden and de-

lirious. They may exhibit some forethought and design, but this will be transient and confined to a brief period preceding the act. Crimes against property will show the same delusive character, and exhibit cunning in the efforts at concealment. Kleptomania and pyromania are of this class. Clerks in stores who are found to be theives, and particularly women, are in many instances both opium-and cocaine-takers. —An aggravated case of an old reliable man, found guilty of this form of crime, suffered from strange collapse in jail, due to the sudden withdrawal of the cocaine. This state, associated with delirium, was thought by the medical man to be due to moral causes.—A man of repute, sentenced for life for pyromania, became insane in jail, and a year later recovered. He concealed the fact of opium and cocaine addiction. His counsel knew of his opium craze, but failed to realize that his mind was impaired, for he was apparently sane during the trial, when he could secure opium; but when this was impossible his true condition appeared.—In a trial for assault where the criminal was known to be a user of narcotic drugs, dating from an old injury during the late war, two physicians swore to his perfect sanity. He became maniacal after the trial, and later was pronounced demented, and is now in an asylum.

This central fact should never be lost sight of in these cases, namely, that the suddenness and impulsiveness of the crime is strong evidence of the insanity and mental incapacity of the actor. When the fact of using cocaine is established, the inference is certain that abnormal reasoning and strange conduct will follow. Crime is the natural result if favoring conditions combine.

Usually the fact of cocaine-using cannot be readily concealed when the drug is taken alone, but when combined with opium the emotional changes are not so pronounced. On the witness-stand a person addicted to cocaine is easily confused and uncertain concerning facts with which he should be familiar.—A woman who witnessed an assault, and testified clearly to the facts, after using cocaine was made to swear to an exactly opposite state of facts. Later her testimony varied widely, and finally she was arrested for perjury, when her real condition appeared.—A woman who was arrested for murder by poisoning, suicided in jail before the trial. The facts indicated that she had used cocaine for at least two years, and alternated it with laudanum. She was intensely garrulous at times, and suspicious of other women plotting to put her out of the way and then marry her husband. She was treated by the family physician for hysteria, and the fact of opium-taking was not known. She gave a poisonous dose of morphine to a woman, and when the result was evidently fatal did all she could to save her, and asserted that the victim was a morphine-taker. The extreme emotional disturbance manifest at this time was found to be due to cocainism. It was also found that on several occasions her husband, and several women who were visiting at her home at different times, all suffered from sudden severe attacks of nausea, vomiting, and extreme prostration, during which she displayed the greatest tenderness and solicitude for their recovery. In all probability she suffered from homicidal delusions after using cocaine, and turned to laudanum for relief. It also appeared that she used large doses of cocaine at the menstrual periods, and between these periods depended on opium.

In any disputed case, if the fact can be established that cocaine was used continuously in large or small doses before the crime was committed, a very thorough inquiry should be made. A search for delusions, hallucinations and transient deliriums should also follow. A suspected cocaine-taker, in jail for supposed barn-burning, was given cocaine and studied closely by a physician: very marked delusions appeared, with hallucinations of voices and confused, delirious conceptions. After the effects of the drug passed away he became secretive and refused to talk or explain his conduct.

Impulsive manias of fear of death, injury or intrigue, are common. Such persons will carry revolvers or loaded canes, or spend a great deal of time visiting and explaining unimportant matters. Fears of false criticism of mistakes, and of injuries at the hands of others, cause constant alarm and efforts to avoid these imaginary dangers.

Social, sexual and emotional matters often assume suspicious prominence in a case not previously noted in this way. Unusual and extraordinary conduct always indicates some disturbing cause, which may be ascertained particularly if it is from narcotic drugs.

It is doubtful, in cocaine-takers, if any unusual influences or criminal designs can be brought to force them to commit criminal acts; yet it is possible that delusions may be fostered and increased to such an extent that crime may follow. This would, however, seem to be a rare occurrence. The transient nature of all mental operations, and their superficiality, would oppose any persistent thought or act. The crime or wrong committed would follow at once the thought, or be forgotten. An act committed in a moment of sudden impulse may so startle the actor, by a horror of the consequences, that the paralysis of the drug will be broken up, and suicide follow. This was the case (no doubt) in an instance where a cocaine-using physician inflicted a ghastly wound on a patient in his office. An altercation began over some bill, and the doctor struck down his victim with a knife. Then, as if realizing his crime, he uttered a wild cry, rushed out to a river near by, and drowned himself. A similar instance was that of a cocaine-taker who threw a man down stairs, and, hearing a despairing cry from a witness that the man was killed, went back and shot himself; but recovered, and stoutly denied all knowledge or memory of the act. This was probably true, but the court convicted him.

In a recent case of a disputed will, the fact was brought out that the testator had displayed great loquaciousness, with great uncertainty and indecisiveness of thought. Naturally he was a great talker and writer, but this increased. His correspondence grew to an enormous extent. Three clerks were busy writing all day. One letter suggested another, and one topic followed another indefinitely. Every thought was well expressed, but came to no end. He wrote forty pages to his partner to advise the payment of a doubtful claim.

His legal adviser received so many letters that he could not read them and attend to other business. In conversation his thoughts ran on in a continuous, steady stream of vague dreamy ideas. Later he showed some delusions of mental power, and claimed he had peculiar clairvoyant perceptions of motives of others. It was in evidence that he purchased large quantities of spirits, although at no time was there evidence of alcoholic intoxication. Also that he had bought secretly quantities of cocaine. He died from some obscure form of heart disease.

If the fact can be established that cocaine is or has been used, the presumption of brain-failure and irresponsibility should be unquestioned. Where this fact is clear, all degrees of intellectual disorder and states of mental confusion will be found. It is possible some concealment may cover up the real condition, and automatic acts and thoughts give the appearance of sanity, but a careful study will bring out the true condition. In a case of forgery a cocaine-taker manifested unusual clearness, and superior judgment in the conduct of his case. After conviction, when the cocaine was withdrawn, he had confusion and delirium, finally ending in dementia.

Cocaine-taking has been a premonitory symptom of general paralysis, which came into recognition on the removal of the drug.

The general fact that should be recognized in all cases is that any form of drug addiction exposes the *habitué* to suspicion of mental unsoundness. Narcotics or any drugs which may possibly cause intoxications are always uncertain and dangerous. The alternations of exaltation and depression always act injuriously on both function and organic structures.

The medical question should be: How far has the natural health and vigor of the brain been injured? Having established the fact of drug-taking, it is to be assumed that the brain is more or less impaired. How far has this impairment extended in undermining the capacity for reason and judgment and the consciousness of right and wrong?

Cocaine-taking is a marked poisonous addiction, certain to be followed by mental confusion and intellectual disorders; acts, conduct, motives and reasoning are open to serious question.

Each case must be studied by itself and judged from the facts.—*Medicine.*

HYDROZONE IN PURULENT OTITIS MEDIA.

Dr. Wm. Clarence Boteler (*Medical Bulletin*), reports a case supposed to involve inflammation of the mastoid.

On November 4, 1895, I was consulted at my office by Robert P——, aged 24 years; occupation, laborer in the Armour Packing Company. The patient complained that for about four weeks he had been suffering from intense pain in his left ear, making it impossible for him to sleep at night, or rest during the day. The pain was so severe that at times he apparently lost consciousness and it seemed to extend through his entire brain. Upon inspection, the man's face was found terribly deformed; an edematous swelling the size of one-half of an ordinary loaf of baker's bread occupied the usual location of the ear and the surrounding muscles. The auricle of the ear was almost buried in edematous tissue; upon palpation, the part was found intensely tender, and deep pressure evoked expressions of excruciating pain. The integument and sub-cutaneous tissue were thoroughly infiltrated. Ichorous, fetid pus was slowly exuding from an almost imperceptible meatus. The patient expressed feelings of chilliness, showing a possible septic contamination of his system. Every indication and sign pointed to possible suppuration of the mastoid cells —tenderness upon pressure over the mastoid being very marked. Efforts to localize the tenderness, whether in external meatus or mastoid, for discriminating diagnosis, were unsatisfactory. I concluded to withhold a positive diagnosis as to whether the condition was purulent otitis media or suppurative inflammation of the mastoid, and used tentative treatment for a short while. I immediately placed the patient under heroic doses of elixir of the six iodides internally. After laborious effort I succeeded in separating the edematous tissue sufficient to admit the introduction of a small Eustachian catheter into the external meatus. Through this, with a small hard rubber syringe, I injected four times daily about one-half an ounce of hydrozone, allowing it later to drain away, advising hot fomentations. The patient was confined to his bed and the best possible hygienic surroundings provided. In twenty-four hours after the treatment was commenced, the intensity of the odor, amount and character of the discharge had manifestly lessened, the swelling was reducing and the patient feeling better. The edema being lessened, the aperture was enlarged. I now recommended the injection of hydrozone through a catheter of larger calibre, every hour, requiring the head to be kept turned to the opposite side for ten minutes to allow the percolation of the hydrozone as deeply as possible into the middle ear, before reversing the position to allow drainage. We continued this treatment for a week, the man's recovery progressing with remarkable rapidity, his pain and the constitutional symptoms having disappeared about the third day. At the end of eight days the swelling had entirely disappeared, his features were again normal, and he expressed himself as perfectly well. An examination showed a circular perforation in the ear drum the size of a shot, proving that the case had been one of purulent otitis media, with septic contamination of the patient's system, and infiltration of the surrounding cutaneous tissues. Small incisions were made at two different places to permit the exit of pus from the integument. The mastoid was found not involved. The rapidity with which the disease yielded after the introduction of hydrozone through the catheter into the middle ear impressed me with the wonderful value of the preparation; for, struggling with such cases during a practice of seventeen years, I have never seen its efficiency equaled by any medicinal or operative procedures.

FARMER HARDACRE—Oh, dangnation take it all! Fate is always agin' the farmer. Mr. Citiman—What is the matter, Mr. Hardacre? Farmer Hardacre—Why, golsquanch the luck! I've got a bustin' big crop of oats for the first time in four years, an' dum it, there's nuthin' to feed 'em to any more but bicycles and trolley cars!—*Harper's Bazar.*

CHOLERA INFANTUM.

Dr. J. M. Duncan, (*Medical Brief*), writes:—A complaint peculiar to infantile life, too well known to need further description. I have been requested to give my treatment for this scourge of the nursery! I will not stop to give its pathology or morbid anatomy. What the profession needs is the simplest and mildest treatment that will relieve the little sufferers in the shortest time; one of which, at least, I hope to give.

The first five years I practiced, I treated these cases as I had learned to from the books and lectures. When my little patients died I wondered why they did not get well, for I knew my treatment was orthodox. When a poor, little emaciated one lingered through the summer into autumn, and finally got well, I knew it was despite both disease and treatment.

Among my patients, was our own little Ruby, a bright, sweet darling of fourteen months, stricken July 2d. I exhausted the remedies laid down in the books and those in my memoranda taken down at college, then called to my assistance the ablest physicians available. They said I had done all they could do, and offered nothing new.

July 28th she ceased to be. We laid her away, and might well have written on her little monument, whose spire points heavenward, "Died early, because they knew not what to do."

Then I began to inquire of every doctor I met: What is your treatment for cholera infantum or summer complaint in children? They replied: Opium, morphine, laudanum, paregoric, Doveri, cinnamon, cloves, allspice, nutmeg, kino, blackberry-root tea, white oak bark, raspberry leaf—the whole catalogue of astringents—made into some form of powder, decoction or syrup. The same old, old treatment that has sent, and is still sending thousands of children to premature graves. Many of them would get well if they never saw a doctor, or rather, if a doctor never saw them.

I have paid dearly for my knowledge. I am in a position to look over the field, read the results, and know whereof I speak. I had tested the treatments laid down in the standard works, and those given me by my teachers, and found them disastrous failures. I had applied to professional gentlemen with whom I met, and some of them appeared to think they had about reached the top round, and, from them, learned nothing new under the sun. I was then, comparatively, a young man. I determined to pull out of the rut made by that old professional cart, that went out from Philadelphia over one hundred years ago, and, if possible, blaze a way to the goal of my ambition, to relieve and save these little sufferers.

Under astringents, I found the inner coating of the stomach wrinkled and hard, like that of the chicken's gizzard; the small intestines the same, with occasional short spaces distended with gas. No digestion, absorption or assimilation could take place under such conditions.

I began to think for myself: There is evidence of irritation here, manifest at both ends of the line. First, by the vomiting, and second, the diarrhœa. What then are the indications?

The answer is plain. First, control the irritation, and second, remove the cause. To control vomiting, one-eighth grain tablet of calomel every hour until four are taken. Follow with teaspoonful doses of castor oil, or pure olive oil, in which is mixed three to five drops of Bromidia, every two hours, until it operates on bowels, and be sure that it *does operate, too.*

Then give every two or three hours from half to a teaspoonful, according to age and emergency, of the following:

℞

Aquæ Calcis	1 ounce.
Mistura Cretæ	1 ounce.
Syrup Acaciæ	1 ounce.
Bromidia	½ ounce.
Bismuth Sub Nit	1½ drachms.

M. Sig.: Shake well before using.

Repeat the oil every morning *till it operates*, and follow it as before. If the Bromidia in this formula is not sufficient to insure quiet and sleep, I give enough of it in addition till it does, always properly diluted. In extreme cases, with "brain symptoms," I depend en-

tirely on Bromidia. I have given it in half teaspoonful doses every hour till the desired effect, with no unpleasant results.

Observe proper rules of feeding and bathing and the little patient is usually all right in a few days. Since I have adopted and followed this course, now about twenty-five years, I have not lost a case of cholera infantum or summer diarrhœa, and my records will show that I have treated, probably, as many as anyone in the same section of country.

I have saved the lives of more children, of all ages, with Bromidia, than any other remedy I have ever used, and I have used it since it was first introduced. I would no more think of going among the little ones without a bottle of it than I would of going among the "Haw-eaters" of the Missouri Valley, without a bottle of quinine.

When doctors learn that medicines never cure any disease, but may only remove the cause, that the system may restore itself, then there will be a great revolution in our medical armamentarium, and the manner of using, to obtain the desired results.

THE SURGICAL TREATMENT OF RETRO-DEVIATIONS OF THE UTERUS.

Dr. Augustin H. Goelet, in a paper read before the N. Y. State Medical Society, declares that displacements of the uterus are not accorded the consideration they deserve, and that the routine plan of inserting a pessary and dismissing the case from further attention is an error too often committed. He thinks the majority of cases, especially those of long standing where structural changes have taken place in the walls of the organ, require surgical intervention for their cure. The pessary alone is never sufficient except, perhaps, in very recent cases. The concomitant metritis and endometritis must be overcome before a radical cure can be effected.

After discussing the merits of Alexander's operation and the intraperitoneal methods of shortening the round ligaments, and vaginal fixation, he described an operation for retroflexion which he had employed with success for the past twelve years.

The Alexander operation which is only applicable in movable retro-deviations, he thinks unnecessary. Its chief disadvantage is the time it requires and the prolonged convalescence it entails.

Intraperitoneal shortening of the round ligaments requires more time for its execution, and the convalescence is longer than suspensio-uteri, and the results have not been so good.

Vaginal fixation is objectionable because it substitutes a fixed anteflexion for a movable posterior displacement. The recent unfavorable reports of complications during labor following it, offer another very serious objection to this operation. The best evidence of its inefficiency is that its originator, Mackinrodt, has abandoned it.

Where the uterus is fixed by firm adhesions, the author advocates opening the abdomen by means of a small incision, breaking them up and suspending the uterus by its posterior face from the anterior abdominal wall. This does not fix the organ as when ventro-fixation is done. In time the uterus recedes from the abdominal wall, close to which it is at first suspended, and swings in an easy position of nearly normal anteflexion. This he prefers to ventro-fixation because the uterus occupies a nearly normal position, and is fairly movable. Its execution consumes less time than intraperitoneal shortening of the round ligaments. The results have been very qualifying.

When the adhesions are not very firm or extensive, they are broken up by manipulations under anæsthesia without opening the peritoneal cavity, and the case is then treated in the same manner as when the organ is movable.

The method of procedure which he advocates in place of Alexander's oper-

ation in movable retro-deviations, has this to recommend it, viz:—that it aims at a cure of the co-existing metritis and endometritis, the maintaining cause of the displacement, and requires but a week's confinement in bed.

For retroversion he dilates the canal, curettes and packs the cavity with iodoform gauze. The vagina is then tamponed with the same gauze in such manner as to throw the uterus into a position of anteversion. This dressing is removed every day, the cavity is washed out with a one per cent. solution of lysol, and it is reapplied. This is done for a week, during which time the patient is confined to bed. Then a vaginal pessary is fixed to hold the uterus in a correct position. The cavity is then irrigated twice a week until a healthy endometrium is reproduced.

For retroflexion the same procedure is adopted, but instead of packing the uterus with gauze, a straight glass drainage stem is used which serves the purpose of a splint and keeps the uterus straight. It is then maintained in a position of anteversion by means of vaginal tampons of iodoform gauze. The gauze tampon and stem are removed every day, the cavity is irrigated to remove retained clots and debris, and after cleansing the stem it is reinserted. At the end of a week the stem is removed, a vaginal pessary is inserted, and the patient is permitted to get up.

The success which he has obtained with this method leads him to believe that the other more complicated and hazardous operations designed for movable retro-deviations, are unnecessary.

SOCIETY REPORTS.

OBSTETRICAL SOCIETY OF CINCINNATI.

Meeting of November 14, 1895.

DISCUSSION

(Continued.)

Of Dr. Hall's reported cases.

[SEE PAGE 441.]

DR. A. W. JOHNSTONE: There have been so many points raised it would not do for us to let this specimen go by default. To begin with the first speaker on the subject, I would go further than he does with regard to interference with fibroids surgically. Fibroids come to us for two reasons; one is for growth, the other is for some constitutional disturbance or pain. It is not always pus that makes this pain. Since our last meeting I have removed the appendages in a case of marked peritonitis. It is too soon to tell whether the case will be absolutely cured, but I have had a number like it before. It was an intra-mural formation, with knotty, hard nodules sticking out everywhere. That woman has had a good deal of pain and trouble, just exactly like you find in adherent ovaries in the normal pelvis. I believe that more than half the cases of fibroids as they come to us—I am sure it is my experience—have something wrong with the appendages.

DR. PALMER: Nobody doubts that.

DR. JOHNSTONE: If this is true, why should we use electricity? Why should we run electricity through diseased appendages? That simply invites trouble. I was only recently consulted by a patient who went to Apostoli. She is now on the Atlantic, coming home with the hope of being saved without an operation; but the upshot of it is, she will have to have an operation before she is through with it. And that is not all. The use of electricity is not by any means safe. In lecturing to my class I always say that I speak of it only to condemn it. I cannot take water, for the more I see of it the more convinced I am. The handling of electricity is like the old office gynecology—it is meddlesome work and should not be done. If we are going to do anything we should clean the pelvis thoroughly of its foci of infection; but until you do that, leave it alone, because you are playing with fire when you stir up the adhesions. How often we used to stir up mischief with the sound, although no electricity was used. The internal electrode without electricity has often been the cause of trouble. In lecturing to my students, as I did last year, I always tell

them that office gynecology of every description is desperately dangerous work, and the less we do of it the more justice we do ourselves and our patients. Of course, a growing fibroid sometimes comes to us, and a rapidly growing one is the only kind in which I have found a healthy ovary and tube. Those which come to you saying, they have periodic attacks of pain, very likely have a peritonitis, which is the first step to abscess.

Now, it is utterly impossible to always make a diagnosis. A little woman came to me for fibroid only about an inch below the navel. I examined it carefully and I thought she had as nearly normal appendages as I ever removed. To my chagrin, upon operation I found a large ovarian tumor wedged in the pelvis, as large as a good-sized orange. It was made elliptical by pressure, but when the pressure was taken off became round. So I do not think we want to stop to make a differential diagnosis. We know that when these things are going on in the pelvis, ultimately there will be the formation of pus.

After we are satisfied a patient has constitutional symptoms—a rise of temperature, pain, etc.—we should operate at once. What we do when we operate is largely indicated by what we find upon operation. An ordinary common fibroid which does not reach the umbilicus, I have never yet failed to cure by removal of the appendages. I have never lost a case, after operating forty or fifty times. In every case I have removed both ovaries, except one in which I did not find both ovaries, and every one of the patients are well. The tumors have all shrunken down at least one-half. Nearly ten years ago I suggested to my old teacher, finding the uterine artery and he said it could not be done, and I gave it up at the time. But it is the operation to go down and remove it entirely. You then leave a space that is almost nothing compared with the old operation of leaving the pedicle to slough away. But it is not the same as ovariotomy; you have more work and the cases do not do as well. All the cases I have treated have gotten well in every sense of the word, but instead of being two weeks to convalescence, as after ovariotomy, it is four weeks to convalescence and five to getting out of bed. Total extirpation is the only thing to do; I have nothing but condemnation for the supravaginal hysterectomy. If you are going to do anything, take out the cervix and all. As for cases like the one reported this evening, though, I do not well see how the doctor could do anything but an hysterectomy with the suppuration there was present. I tell my patients that every fibroid is a case to itself; its complications have to be studied, and the complications often cannot be determined until operation.

As for the other case, the operation of ovariotomy during pregnancy, I can only congratulate the doctor on the prompt recovery and the nice results he has had. As for the manias, I am happy to say I have seen very little of them, and I don't want to see any more. I have seen two cases in my life, and both cases died after tearing, awfully acute manias. One was trying her best to commit suicide. It was a case of large ovarian tumor, and as long as I stayed in the hospital the patient was comparatively easy to control. But about daylight I went up town to get breakfast, and when I got back she was a raving, maniac, and had been found out in the yard. She died from exhaustion from the force expended in trying all day to keep from being in bed. The other case was in a family of lunatics. One case had a tumor of the brain, and some members had Saint Vitus' dance. The patient had a simple broad ligament cyst, a large one it is true, but it had a pedicle. For ten days I never saw a case do better, when suddenly she went off with a ripping, tearing mania and died. Those cases occurred ten or twelve years ago, and I have never seen one since—and I sincerely hope my share is done.

DR. JULIA CARPENTER: I heartily endorse what the last speaker has said with reference to the use of electricity according to Apostoli's method in fibroid tumors. I have never used it in that way, and never expect to. From the first, while it seemed to be very highly endorsed, it never seemed the proper thing to puncture these tumors with the needles; it seemed to me there would be adhesions set up which would be difficult to deal with in case of operation.

DR. PALMER: But Apostoli does not puncture cases now, as he used to do so much.

DR. CARPENTER: When it was first brought out it was practiced in that way. While it might seem presumptuous on my part to differ from such an authority, I never used it in that way, and I am glad now I never did.

DR. JOHNSTONE: There is one thing I omitted, and that is as to why electricity took such a rush. It was explained to me best by one of our brightest men, one of our first converts to Apostoli's view. I got him down to a quiet little dinner and asked him to tell me honestly and candidly what he thought of it. He said: "It is simply this—these fibroids have more or less serum in them, and some a great deal. The electricity stimulates the tumor to contract and squeeze out this serum. This does well at first, but afterward the tumor comes up like a rubber ball, harder and harder, and you cannot stop it. The electricity simply solidifies the tumors and does not stop their growth."

DR. PALMER: While this subject of electricity is under discussion I wish to say a very few words, but not with reference to electricity as it was first used, because it is not used now as it was. As I said before, it has been abominably abused. No doubt it controls, to a certain extent, the hemorrhage, and abates the pain. But it does not, as a rule, cure the tumor. The tumor remains pretty much the same in size, but the symptoms of menorrha-

gia and metrorrhagia, and pelvic distress, generally are relieved. I believe its field of utility is limited. Undoubtedly it is adapted to some cases. Such tumors as are largely interstitial, where the cavity is enlarged, where the substance of the fibroid infiltration has not undergone degeneration, if you can pass the current of electricity through the growth and abate the symptoms of pain and hemorrhage, the patients are often much benefited by it. The positive galvanic pole contracts, condenses and diminishes local blood supply, and mitigates pain. The negative pole produces the opposite effects in kind. Electricity, either in the galvanic current or the different faradic currents, has its indications clear and distinct in the management of several gynecological affections. This therapeutic remedy has been brought into an uncalled-for disfavor by its abuse in certain quarters from a want of knowledge as to its physiological action.

DR. RICKETTS: As to controlling the hemorrhage, the thermo-cautery will do that. What Dr. Palmer says is correct, that Apostoli does not use the puncture; but I call to mind the case of quite a prominent lady of England who had a large fibroid of the round variety. She was amply able not only to consult the best physicians of London, but to go to Paris and consult Apostoli. Electricity was used according to the method of Apostoli, not by puncture, and afterward by Aveling, who has since died; and then the case came into the Crescent Hospital for operation as a *dernier ressort*. The puncture had not been used in that case, but when the abdomen was opened the adhesions to the fibroid were simply terrific. I speak of this simply because the question has been raised as to whether or not electrolysis causes adhesions. I have never seen another case with adhesions so great as in this instance. The patient made a recovery, but only after a very close call.

DR. PALMER: One of the greatest difficulties in the use of electricity intra-uterine, by means of a metallic electrode, is that the electrode may not be aseptic. You may use a sound and do a great deal of damage, but if the sound is aseptic no harm will be done. If dirty it will do a great deal of harm, even if used with extreme care. And so with electrodes, the greatest amount of care should be observed as to aseptic precautions. The same is true about the use of a curette or any other instrument put into the uterus. In many of these cases the presence of peritoneal adhesions is doubtless owing to the excitation of a septic peritonitis, from the injudicious employment of a septic sound, electrode or curette. Intra-uterine galvanization is safe, if done with such precautions as we ought to use with the employment of a sound or curette. Sepsis is a more potent factor of injury than traumatism or electricity itself in the management of these cases.

DR. JOHNSTONE: I, for the life of me, cannot see how electricity can cause peritonitis, because the current follows the shortest course to the other pole. The electrode does not pass posterior to the uterus; it is scarcely possible for the current to pass posterior to the Douglass cul-de-sac, and cause adhesion. It passes directly to the electrode on the abdominal wall, and I cannot understand how it can cause inflammation of the fundus or posterior wall of the uterus. I think whatever inflammation and adhesion we have is caused by the pus before the electricity is used.

DR. BYRON STANTON: My own belief is that the electricity follows the vessels; that the vascular system is the best conductor of electricity, the blood being a better conductor than the solid tissues. I believe the electric current follows the course of the blood-vessels, and the inflammation excited by the electricity is caused by the influence of the electricity on the vascular supply of the part, except, of course, in cases of traumatism, in which the tumors are punctured. I wish to express my fullest agreement with what has been said about the treatment of tumors with electrolysis. I agree with Dr. Palmer; the cases in which it is applicable are extremely few, and it will not be many years before it will be a thing of the past. I also congratulate Dr. Hall on his success in the operation he performed on the woman during pregnancy. A number of cases have been reported in which abortion has not occurred after operation. He certainly is to be congratulated also upon the speedy convalescence of his patient.

DR. GILES S. MITCHELL: A number of years ago I became convinced that electrolysis fails to cause the disintegration, absorption or dissipation of tumors of any size, and more especially if they are fibroid in character. I have never had the courage, or rather the temerity, to introduce a needle electrode into a uterine fibroma. Twelve or fifteen years ago I had under my care a lady who had a large fibroma located in the upper part of the triangle of the neck. Owing to the close relationship of the growth to important vessels, I hesitated to remove it with the knife. Electrolysis was resorted to and faithfully practiced for three months, without the slightest benefit. Subsequently the tumor was removed by the knife. I am confident that in the future electricity will be used much less frequently for the relief of pelvic diseases than it is to-day.

DR. J. M. WITHROW: I have heard nothing that was said, either in the presentation of the cases or in the discussion of them.

As to the use of electricity, with me it has been eminently unsatisfactory. I think, perhaps, applied to small tumors about the time of the menopause, the tumors would diminish in size; but further than that it is not of any use. I have never had the temerity to introduce needles into a fibroid of the uterus. I applied electricity for a long time to a case of supposed fibroid of the uterus, but the patient did not improve. She went to Philadelphia, and Dr. Goodell removed a multilocular cyst

of the ovary. Electricity did no good in that case.

DR. G. E. JONES: It seems to me, a couple of years ago at a meeting of the society in Dr. Hall's house, the subject of electricity was brought up and it was proved most conclusively that electricity had produced a cellulitis, and (if I mistake not) the death of the patient.

DR. HALL: I will not go over the subject of the use of electricity in the treatment of fibroids in all its phases.

First, let us take up the differential diagnosis of pelvic fibroid tumors, such as I presented to-night. One of the members thought it would be perfectly easy to differentiate a tumor such as this posterior to the uterus. It reminds me of a fellow out West telling us that "our hindsight was better than our foresight." But there were some mitigating circumstances in this case. The woman was short in stature and exceedingly fleshy. She says she weighs something over two hundred pounds. The tumor caused partial occlusion of the rectum for a half-year or more; and with pelvic peritonitis present there was enormous distension of the abdomen. The muscles were rigid and so tender that she would scream with pain if you attempted to make any examination. She had acute inflammation immediately following her marriage, which I could trace fairly well to specific infection. She then led a semi-invalid life for a year or two. Three years ago she suffered with a "knot" in the abdomen, as she said. Taking the clinical history into consideration, and the fact she had sepsis, it was fair to suppose she had a focus of pus in the abdomen. I could not say there was pus at the first examination, but after she left her bed and the abdominal distension was overcome somewhat, I was convinced there was a fibroid tumor, but as to the presence of pus in addition, there was only presumptive evidence. She complained of pain in the region of the right ovary. It seems to me the remarks of one of the speakers could not be applied to this case, for the differential diagnosis is not always so easy.

In reference to the use of electricity in fibroids, I have radical views, but will not take up your time in discussing the subject, for my views have been expressed by Dr. Johnstone about as plainly as I could do it. I believe, with Dr. Stanton, that as we advance more and more we will use electricity less and less. I am convinced that only a comparatively small number of cases are suitable for the use of electricity, and to differentiate that small number is exceedingly difficult. I remember a few years ago operating upon the wife of a prominent physician. The patient had been treated for fibroid of the uterus by electricity by two good men for a period of eight or nine months, and then she went to bed with peritonitis. I saw her ten or eleven weeks afterward with sepsis. I said I believed it was fibroid, because I had confidence in my professional brethren who had seen it previously. Upon operation I removed a big suppurating ovary, that completely filled in the pelvis, which had been treated for fibroid but was probably an ovarian tumor at first. She recovered after a long, tedious illness. That is only another illustration of the fact that we cannot always differentiate these cases, and that there is an element of danger in using electricity. But in some cases the patient gets better, and the tumor decreases in size, or at least does not increase of its own account; and if, at the time, you are using electricity, you are inclined to believe that you did some good. I remember a few years ago a case was sent me by Dr. Millikin, of Hamilton. The patient had had everything but an operation, she had been bleeding irregularly for a long time. She declined an operation. She went home and has had no pain since, and, although the tumor is present, there is no urgent need of an operation, because it does not bother her.

I believe electricity has a field in gynecology, but its narrowest field is in the treatment of fibroids. I believe it is of utility after operations in which the ovaries are removed. These cases often suffer pain for a long time, and galvanism relieves their annoying pains and nervous reflexes. I have never used electricity extensively in the treatment of fibroids, and have not used it for fibroids at all in the last five years. I can do all with an anæsthetic and the curette that I can do with galvanism. I believe we can only hope in fibroids to control the hemorrhage by the use of electricity in properly selected cases.

One of the speakers said he did not like hysterectomy because it put the patient in bed so much longer than removal of the ovaries, but his experience does not coincide with mine. In my experience the patients are out of bed about as soon as after an ordinary ovariotomy. They are out of bed in twenty-one days, and go home in four or five weeks, and that is as soon as any case should be allowed after abdominal section.

Mania was mentioned following abdominal operations, especially ovariotomy. I recall a case of mine in contrast to those described by one of the previous speakers. I have had acute mania develop in at least five or six cases following section, within the last eight years. The first one was sent me by an oculist of this city because the patient confided to him that she had an abdominal tumor. I got her history and thought it had a bearing on the subject. I propounded all the usual questions, set a day for operation, operated on her, and about the tenth or eleventh day she began to talk queerly, and the next day was insane. Dr. Zenner was called in the case with me, and had the management of it after the first day of the mania as far as the nervous system was concerned, and for four weeks we had to feed her forcibly, and restrain her. After six weeks she was well, discharged and went home. This case, though, I learned afterward, had served a period of over two years in an insane

asylum before the operation. This fact was not intimated to me until after the operation. By persistent systematic feeding she recovered, and is now alive and well.

The next case was an ovariotomy patient sent to me from Indiana a few years ago. When lifting the patient off the table after the operation the doctor said, "Now, if she don't go crazy, she ought to get well." I asked, "What do you mean?" "Don't you know she was crazy?" I said, "No; why didn't you tell me?" He said that he was afraid that if he did I would not operate upon the patient. The patient became insane, and the insanity lasted about six weeks; she recovered.

Out of the lot of five or six cases not one has died. They all developed acute mania inside of a week, except the second one, which developed about the end of the second week.

DR. PALMER: What anæsthetics were given?

DR. HALL: The first one was given ether; the remainder were given chloroform. In that case the operation was done while I was using ether almost altogether. Since about the first three years I have used chloroform almost exclusively.

DR. PALMER: What medicines controlled the mania to best advantage?

DR. HALL: Hyoscine.

DR. JOHNSTONE: How much hyoscine did you give?

DR. HALL: About $\frac{1}{50}$ or perhaps $\frac{1}{100}$ of a grain will do.

DR. WITHROW: What salt of hyoscine?

DR. HALL: The hydrobromate.

I could not wish an enemy anything worse than to encounter a case of acute mania following a section.

Now, there was something said about the method of applying electricity causing inflammation, but I think that is all theory. My theory is different from those of the gentlemen who have spoken. I have observed that strong currents cause the uterus to contract hard, and I believe the temporary effect from the continued squeezings of the uterine contractions squeezes out the water of the tumor and makes it hard, as Dr. Johnstone said. If there is a diseased tube — and about 50 per cent. have diseased tubes, or ovaries and tubes—you may have rupture of these, and inflammation follow. The contraction follows the continuous current, or there could be no advantage from the use of it. If you feel the uterus while using the continuous current you can feel the contractions. I believe the electricity may injure the adhesions, or an over-looked ovary or cyst that may exist. You often meet with most extraordinary surprises upon opening the abdomen in fibroid tumors.

DR. PALMER: There are three important points in my case that I think will serve for discussion. Now, as to the use of electricity. It does contract the muscular tissue, whether the galvanic or faradic current is employed; and it diminishes blood supply, particularly if the positive pole is applied. The positive pole will contract, whereas the negative pole has the opposite effect.

DR. JOHNSTONE: As long as you do not get interruption it does not contract, does it?

DR. PALMER: Yes. That is the reason it is so useful in infantile paralysis, until you get the muscles so they will contract.

PERISCOPE.

MEDICINE.

Piperazine as an Eliminant of Uric Acid.

Although it is still a disputed question as to what factors are concerned in the excessive formation of uric acid and its retention in the system, clinical investigation would seem to show that among all the remedies hitherto proposed for the prevention and cure of uric-acidemia, as it is now termed, piperazine deserves the chief place, both on theoretical and empirical grounds. The mistake frequently made in the use of this remedy, however, is that it is administered for too short a period to obtain positive and curative results, for it should not be expected that a brief trial of any drug will effect an immediate and striking change in any condition of such chronic nature as the uric acid diathesis.

Dr. Heermann, who published a number of cases successfully treated with piperazine, about a year ago, has recently reported that the favorable results obtained at that time have since persisted (*Therap. Monatshefte*, July, 1895). He also records several additional cases, of which three are especially noteworthy. The subject of the first, a man aged forty-four, had suffered since 1886 from attacks of renal colic, as was later shown by the passage of calculi in the urine. At the time of his first visit to the author, in 1893, he displayed an entire collection of calculi, some of which were as large as a pea. After having taken a course of the waters at Carlsbad, he passed considerable gravel and the attacks of renal colic recurred less often, but in September, 1894, had regained their former frequency. Resort was then had to piperazine, with excellent results—the passages of large quantity of fine, granular concretions and the disappearance of the attacks, which have not recurred

for seven months. The patient still takes the remedy for prophylactic reasons (1.0-2.0 Gm. each week) and claims that its administration is always followed by an increased amount of gravel.

The second patient, a man aged fifty-two, had suffered from gouty attacks since 1881, which recurred every year and lasted four to six weeks. When he came under the author's observation, in the summer of 1893, his hands and feet were markedly affected, and despite the external application of ichthyol and the internal use of salicylate of lithium and bicarbonate of sodium, no improvement occurred. Some relief, however, was obtained from a course of warm mineral baths and he was enabled to follow his occupation until the spring of 1894, when he had a serious attack. Piperazine was now employed in 0.5 Gm. doses daily in soda water, and after its use for eight days the attack was aborted and similar results were obtained in March of this year.

In the third case, a gouty swelling of the index finger of the right hand also disappeared in the course of six days under administration of piperazine, and no further extension of the disease took place.

These cases attest the value of piperazine as an eliminant of uric acid in the various conditions in which this is the aim of therapeutic endeavor. A most useful and convenient means for administering the remedy are the tablets of piperazine-bayer, each one of which represents an average daily dose.

NEWS AND MISCELLANY.

Early Signs of Locomotor Ataxia.

According to Professor Fournier, the first symptoms of locomotor ataxy may be classed as follows:—(1) Sign of Westphal; (2) sign of Romberg; (3) the "stairs" sign; (4) crossing of the legs; (5) walking at the word of command; (6) standing on one leg.

(1) Westphal's sign is well known; it consists in the abolition of the patellar tendon reflex, and is present in two-thirds of the cases.

(2) Romberg's sign can be thus appreciated: The eye is an indirect regulator of motion; it helps to correct deviations in walking and maintains the equilibrium. When a patient is suspected of incipient ataxy, it will often suffice to make him close his eyes when in the erect position to verify the diagnosis. In a few instances his body will oscillate, and if the malady is somewhat advanced he will be in danger of falling.

(3) The "stairs" symptom. One of the first and most constant symptoms of incipient locomotor ataxy is the difficulty with which the patient will descend stairs. If questioned closely on the subject, he will say that at the very outset of his malady he was always afraid of falling when coming down stairs.

(4) The manner in which a patient crosses his legs is often significant. In the normal state a man when performing that act lifts one leg simply to the height necessary to pass it over the other, whereas in the affection under consideration he lifts it much higher than necessary, describing a large segment of a circle.

(5) Walking at the word of command. The patient seated is told to get up and walk instantly. After rising he will hesitate, as if he wanted to find his equilibrium before starting off. If, while in motion, he is told to stop short, his body, obeying the impulsion, inclines forward as if about to salute, or, on the contrary, jerks himself backward in order to resist the impulsion forward.

(6) The patient is asked to stand on one leg, at first with his eyes open, afterward closed. Although man is not made for this position, yet he can balance himself pretty firmly for a little while. The ataxic will experience a great deal of difficulty, and will instinctively call to his aid his other foot so as not to fall. If his eyes are closed he will not be able to stand one instant, and if not held he would fall heavily to the ground. Such are the symptoms of incipient locomotor ataxy. They will not be all present frequently, but they should be all sought for in order to avoid an error which might have grave consequences. —*The Practitioner.*

Benefits of a Meat Diet.

In older countries the lower orders, as a rule, have but a low vitality. It may be truer to say that the vital volition is weak. Let the learned settle the definition. The fact is easily accounted for. During generations upon generations the majority of European agriculture populations lived upon vegetable food, like the majority of Eastern Asiatics, and with the same result. Hard labor produces hard muscles, but vegetable food yields a low vital tension, so to say. Soldiers know it well enough. The pale-faced city clerk who eats meat twice a day will outfight and outlast and outstarve the burly laborer whose big thews and sinews are mostly compounded of potatoes, corn and water.—*The Century.*

The late Prof. Huxley is said by the spiritualistic journal, *Light*, to have given a communication to Gen. Francis J. Lippitt, of Annapolis. The spirit message was delivered on a slate. Prof. Huxley writes: "It is with pleasure I greet you and identify my picture. Let the spirit be ever with you to advance this great work. Yours for the truth. Professor Huxley." While living, Prof. Huxley once said that the only good of spiritualism was that it furnished an excellent argument against suicide, for it was far better to live under the most wretched conditions than to die and be made to utter the dismal imbecilities of the spirit message.—*Medical Record.*

Wilhelm Meyer Memorial.

In the death of Prof. Wilhelm Meyer, which recently occurred, the profession of medicine has lost a brilliant, useful and greatly appreciated member, and the world at large one of the leading and most practical philanthropists of the time. It is a familiar fact that Prof. Meyer's recognition of the condition known as Adenoid Hypertrophy at the vault of the Pharynx, the clear and urgent warning which he gave as to its dangers, and the efficient means which he devised for its prompt and easy cure, have been the means of bringing relief to hundreds of thousands of suffering patients throughout the civilized world. It is safe to say that no man of his time has conferred so great an obligation upon the rising generation of the last twenty years.

In recognition of his great service to humanity, it has been determined to erect a monument to his memory in his native city, Copenhagen, Denmark. To this end committees have been formed in all the principal countries of Europe for the purpose of raising the necessary funds. A large and influential National Committee, representative of all the leading sections of this country, has been appointed, and power given to each member of it to make such local arrangements as in his judgment shall best secure the success of his work. It is hoped that all who have profited by the results of Dr. Meyer's teachings, not only of the medical profession, especially in the departments of Laryngology, Otology and Pediatrics, but also among the laity, will be willing to aid in the accomplishment of the object for which the Committee was formed.

I have been requested to represent the National Committee in Philadelphia.

HARRISON ALLEN.

1933 Chestnut Street,
Philadelphia, April 1st, 1896.

Rush Monument Committee.

BALTIMORE, March 31st, 1896.

The following subscriptions to the Rush Monument Fund have been received:

Jan. 6	Timothy H. Bishop, New Haven, Ct.	$10 00
" 6	B. F. Kittrell, Bl'k Hawk, Miss.	1 00
" 20	C. S. Laughlin, Paris, Ill.	1 00
" 20	W. A. Buchanan, "	1 00
" 20	W. H. Ten Broeck, "	1 00
" 20	Z. T. Baum, "	1 00
" 20	L. J. Weinstein, Ter. Haute, Ind.	1 00
" 20	J. P. Worrell, " "	1 00
" 20	W. C. Eichelberger " "	1 00
" 20	S. J. Young, " "	1 00
" 20	T. A. Mason, " "	1 00
" 20	B. F. Swafford, " "	1 00
" 20	F. W. Shaley, " "	1 00
" 20	Walker Schell, " "	50
" 20	J. D. Maudeville, Philo, Ill.	1 00
" 20	J. L. Firebaugh, Robinson, Ill.	1 00
" 20	T. N. Rafferty, " "	1 00
" 20	C. Barlow, " "	50
Jan. 20	O. Mitchell, Marshall, Ill.	1 00
" 20	W. H. Haslet, Dalton, Ill.	1 00
" 20	Mark Rowe, Redman, Ill.	1 00
" 20	J. A. Baughman, Neoga, Ill.	1 00
" 20	M. D. Norris, Catonsville, Md.	1 00
Feb. 11	E. D. McDaniel, Mobile, Ala.	5 00
" 11	C. H. Franklin, Union Sp'gs. "	5 00
" 11	Davis L. Davis, Birming'm, "	5 00
" 11	R. M. Cunningham, Pratt C'y "	5 00
" 11	E. H. Sholl, Birmingham, "	5 00
" 11	W. H. Johnson, " "	5 00
" 11	C. A. Thigpen, Montgomery, "	5 00
" 11	J. B. Gaston, " "	5 00
" 11	J. C. LeGrand, Anniston, "	5 00
" 11	J. T. Searcy, Tuscaloosa, "	2 00
" 11	J. C. Hendrick, Greenville, "	2 00
" 11	S. C. Henderson, Brewton, "	2 00
" 11	J. A. Wilkinson, Flomaton, "	2 00
" 11	Shirley Bragg, Lowndesboro' "	2 00
" 11	J. A. Pritchett, Haynesv'le, "	2 00
" 11	W. D. Gaines, Milltown, "	2 00
" 11	J. J. Harlan, Hackneyville, "	2 00
" 11	J. A. Goggans, Alexander C'y "	2 00
" 11	L. W. Johnston, Tuskegee, "	2 00
" 11	S. A. Holt, Eufaula, "	2 00
" 11	D. E. Cason, Ashville, "	2 00
" 11	R. F. Harper, Ozark, "	2 00
" 11	W. B. Asberry, Anniston, "	2 00
" 11	W. B. Cameron, Sumterville "	2 00
" 11	R. L. Sutton, Orrville, "	2 00
" 11	S. C. Carson, Bessemer, "	2 00
" 11	G. T. McWhorter, Riverton "	2 00
" 11	M. W. Murray, New Decatur "	2 00
" 11	Jerome Cochran, M'tgomery "	17 00
" 15	Iowa and Illinois Central Dist. Medical Society	25 00
Mch. 14	Interest on Mortgage Note	25 00
	Before reported	3548 39
	Total	$3729 39

GEORGE H. ROHÉ,
Secretary and Treasurer.

American Medical Association.

The Forty-seventh Annual Session will be held in Atlanta, Ga., on Tuesday, Wednesday, Thursday and Friday, May 5, 6, 7 and 8, commencing on Tuesday, at 10 A.M.

"The delegates shall receive their appointment from permanently organized State medical societies, and such county and district medical societies as are recognized by representation in their respective State societies, and from the medical department of the Army and Navy, and the Marine-Hospital Service of the United States.

"Each State, county and district medical society entitled to representation shall have the privilege of sending to the ASSOCIATION one delegate for every ten of its regular resident members, and one for every additional fraction of more than half that number: Provided, however, that the number of delegates for any particular State, Territory, county, city or town shall not exceed the ratio of one in ten of the resident physicians who may have signed the Code of Ethics of ASSOCIATION."

Members by application shall consist of such members of the State, county and district medical societies entitled to representation in this ASSOCIATION as shall make application in writing to the Treasurer, and accompany said application with a certificate of good standing, signed by the president and secretary of the society of which they are members, and the amount of the annual subscription fee, $5.00. They shall have their names upon the roll, and have all the rights and privileges accorded to permanent members, and shall retain their membership upon the same terms.

The following resolution was adopted at the session of 1888: "That in future, each delegate or permanent member shall, when he registers, also record the name of the section, if any, that he will attend, and in which he will cast his vote for Section officers."

Secretaries of medical societies, as above designated, are earnestly requested to forward, at once, lists of their delegates.

AMENDMENTS TO THE CONSTITUTION AND BY-LAWS.

Offered by Dr. G. H. Rohé:—

After paragraph 8, of Article II, insert: "Active members shall consist of such permanent members as have attended three meetings of the ASSOCIATION, and shall have all the privileges of delegates, so long as they conform to the regulations of the ASSOCIATION."

Insert in line 6 of paragraph 6, Article IV, relating to duties of officers: "He shall, in conjunction with the local committee of arrangements, make complete arrangements for the verification of the credentials of delegates, and for the registration of members. He shall also prepare annually an accurate list of members of the ASSOCIATION."

That Ordinance No. 18 be amended by substituting "The Permanent Secretary" for "Committee of Arrangements."

Offered by the General Business Committee:—

Article VII, insert: Officers of Sections shall fill vacancies temporarily in their Executive Committee, to serve on the General Business Committee during the current meeting of the ASSOCIATION."

Address in Surgery, Nicholas Senn, Chicago, Ill.; Address in Medicine, William Osler, Baltimore, Md.; Address in State Medicine, George H. Rohé, Baltimore, Md.

Committee of Arrangements, W. F. Westmoreland, Atlanta, Ga.

All the railroad lines east of the Mississippi have granted the concession of a fare and a third on the certificate plan. This applies to all who go to Atlanta. Pay full fare at starting, take a certificate from the agent; this, when signed by the Secretary, enables the owner to buy return ticket for one-third. Certificates must be used not later than May 12th and are not transferable.

Dr. J. E. Schadle, of St. Paul, Minn., formerly of Shenandoah, Pa., has been appointed Professor of Clinical Laryngology in the Medical Department of the University of Minnesota.

A Prophecy of the New Photography.

A letter in the *Dundee Advertiser* points out that the late Dr. Andrew Blair, a medical man, a native of Dunfermline, latterly resident in Tayport, and well-known in Dundee, in a work issued anonymously, and published in three volumes in 1874 by Samuel Tinsley, London, foreshadowed the discovery of the Roentgen rays. The work is entitled, "Annals of the Twenty-ninth Century; or, the Autobiography of the Tenth President of the World Republic." The realization in less than a quarter of a century of a scientific achievement deemed sufficiently wonderful to warrant in the forecast its postponement for ten centuries is a remarkable tribute to the inventive ingenuity of the age in which we live. The passage referred to will be found at page 105 of Vol. III. and is as follows:

"I perceived the Secundines could not only make glass and stones, and all inorganic substances malleable, but possessed a power undreamed of by man of making them transparent. . . . . I was shown animals, upon which the youths were taught zoology and comparative anatomy, in some of which the skin was like a glass case, showing beneath the working of the muscles; in others the skin and muscles were pellucid, showing the circulatory system; in others all was perspicuous save the bones, with the view of their being subservient to the study of osteology; while in others still the whole body was vitreous."

The development of Professor Roentgen's discovery reported from Italy, whereby the eye is to see straight through the ordinarily opaque tissue, is no more wonderful than Dr. Blair's wild fancy that the opaque tissues should themselves become transparent to the ordinary limited eye.

The American Medical Publishers Association will hold its Third Annual Meeting in Atlanta, Georgia, Monday, May 4. Many papers will be presented on subjects of importance. Everyone interested in the progress of medical journalism should attend and take part in the discussions. A special invitation has been extended the medical profession by the management of Lookout Inn (a delightful resort-hotel on the crest of Lookout Mountain, Tenn.) to visit this magnificent and historic spot, *en route* to the meeting in Atlanta. Special rates to the profession and medical press. Members of the Publishers Association and all medical editors and journalists are cordially urged to rendezvous at Lookout on May 2 and 3, leaving for Atlanta on Sunday night. For information, address the secretary,

CHARLES WOOD FASSETT,
St. Joseph, Mo.

The Trustees of Jefferson Medical College have elected Dr. A. P. Brubaker, formerly Demonstrator of Physiology in the same institution, to the position of Adjunct Professor of Hygiene. CHAS. H. RECKEFUS, JR.